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ABSTRACT

Presenting a wide array of Internet addresses and sample lessons, this book shows how teachers can integrate the Internet into their K-12 curriculum to actively involve students. The ideas and lessons in the book help students to communicate with people in faraway places; gather information from around the globe; develop sophisticated research skills; increase knowledge across the curriculum; strengthen creative abilities; develop fluency in keyboarding, reading, and writing; and engage in both cooperative and independent learning. Topics covered in the book include e-mail, World Wide Web, searching, Web page design, chat, video conferencing, and Java (a new programming language). Sample lessons explore Canada, Mexico, whales, the news, fairy tales, resumes, Washington DC, and creating a home page on the Web. Chapters in the book (which had been revised, with new material added) are (1) Internet 101--The Basics; (2) The World Wide Web; (3) A Wealth of Web Sites; (4) Searching on the Web; (5) Developing and Designing a Web Page; (6) Advanced Web; (7) Other Internet Tools; (8) E-Pals and Keypals; (9) A Whale of a Time!; (10) The News; (11) Look Who's Talking!; (12) Virtually Together in D.C.; (13) The Games People Play; (14) The ABCs of the Internet; (15) Get a Job!; (16) A Book an Hour; and (17) Just for Little Kids. A 39-item select bibliography of Internet books, an abridged 35-item glossary of Internet terms, and information on 6 commercial on-line services in the United States and Canada are attached. (RS)

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The Online Classroom

Teaching with the Internet

2nd Edition

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Eileen Giuffré Cotton

The Online Classroom

Teaching with the Internet

2nd Edition

by Eileen Giuffré Cotton

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ERIC (an acronymn for Educational Resources Information Center) is a national network of sixteen clearinghouses, each of which is responsible for building the ERIC database by identifying and abstracting educational resources, including research reports, curriculum guides, conference papers, journal articles, and government reports. The Clearinghouse on Reading, English, and Communication (ERIC/REC) collects educational information specifically related to reading, English, journalism, speech, and theater at all levels. ERIC/REC also covers interdisciplinary areas, such as media studies, reading and writing technology, mass communication, language arts, critical thinking, literature, and many aspects of literacy.

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Dedication

To Chet, my husband

and

Eustace, Helen, and Leo Giuffré
my uncle, mother, and father.

Acknowledgments

A book is the work of many people, not just the author. Specifically, I want to thank all the K–12 teachers who gave me ideas for lessons, the folks at ERIC/REC for their time, energy, and patience, and my friends and colleagues for all the encouragement they gave me.

Special thanks go to Michael Shermis, the editor of *The Online Classroom: Teaching with the Internet* (second edition). He worked with me regularly, editing copy, giving suggestions, and providing encouragement.

Thank you one and all.

About the Author

Eileen Giuffré Cotton is a world wide teacher. She has taught in public schools in California, at the University of Guam, and now as a professor of education at California State University, Chico. Her travels have taken her to every state in the U.S. and extensively in Canada, as well as the British Isles, the Orient, and Downunder. Her summers are spent in Wyoming with Chet (her husband for twenty-five years) on their mountainside, where she wrote *The Online Classroom,* as she tells you in the book. She collects teddy bears, drives a diesel pickup truck, likes RVs and steam engines, and recently bought her fifth or sixth computer.

Dr. Cotton's scholarly articles are in print throughout the professional literature, but you are more likely to encounter her making a presentation at a conference—she likes to work with teachers. *The Online Classroom* is also an online course. To see more information about it click on **http://www.indiana.edu/~eric_rec/disted/internet/530form.html**.

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CHAPTER	**GRADE**												
	K	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**11**	**12**
1: Internet 101–The Basics	n/a												
2: The World Wide Web	n/a												
3: A Wealth of Web Sites					b	b	b	b	b	b	b	b	b
4: Searching on the Web					b	b	b	b	b	b	b	b	b
5: Developing and Designing a Web Page					b	b	b	b	b	b	b	b	b
6: Advanced Web						b	b	b	b	b	b	b	b
7: Other Internet Tools	n/a												
8: E-pals and Keypals	e	e	e	e	e	e	e	e	e	e	e	e	e
9: A Whale of a Time!					b	b	b	b	b				
10: The News					b	b	b	b	b	b	b	b	b
11: Look Who's Talking!							b	b	b	b	b		
12: Virtually Together in D.C.						b			b			b	
13: The Games People Play	b	b	b	b	b	b	b	b	b	b	b	b	b
14: The ABCs of the Internet						b	b	b	b				
15: Get a Job!										b	b	b	b
16: A Book an Hour								b	b	b	b	b	b
17: Just for the Little Kids	b	b	b	b									

e: E-mail **b: Web browser** **n/a: not applicable**

This matrix indicates the grade level appropriateness and technology required for the activities described in each chapter.

Section 1

The Mechanics

Chapter 1:

Internet 101—The Basics

I first heard about the Internet through an advertisement for ten free hours of America OnLine. I had the required equipment, a computer, and a modem, so I sent away for the free kit. As soon as I got it, I loaded it in my computer, set up my modem, and away I went. It was fun, but then I like to push buttons and play with gadgets and toys. So connecting to AOL was a logical extension of a natural bent. I started to visit the different departments available, but I ran out of free time. There was so much to do and so little time to do it! The next fall, my university provided all faculty members with an e-mail account and access to the Internet via Mosaic, Turbo Gopher, Fetch, and Telnet. Being the pro who had already worked with AOL, I figured I knew what all this good stuff was about, so I set out to explore some more.

I visited lots of sites and decided once again this Internet stuff held great potential for my students, but I kept running out of time to learn more. Then came Winter Break. I spent 3,000 minutes on the Internet, exploring, learning, crashing into virtual walls, surviving the crashes, and becoming convinced it was a place to learn while having a good time. I could tune-in and turn-on my students.

The learning I was doing was fascinating, interesting, and *now*! Perseverance and determination led to other pathways where I wanted more out of the Internet. I

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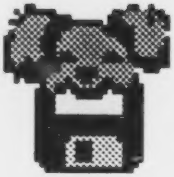
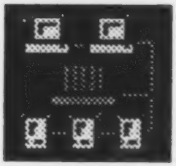
learned about home pages and how to connect my students. I developed lists and links and lessons for future explorations and learning. I even played some games and just surfed. In a nutshell, all the surfing and crashing that I did, led eventually to this book. The Internet, I love it, and so will your students. And I hope you will too.



I am not a computer expert or techie, nor any of the other "names" people call the folks who can help you gain access to this amazing world of near-total knowledge at your fingertips. I have learned some of the buzz words, but I do not speak "computerese." I know how to use the word processing, spreadsheet, database, and draw programs for my computer. Since working on the Internet, I know how to download programs and files, too. These are the skills you need to be successful on the Internet. There is one other thing you do need, *time*. It takes time to find Web sites on the Internet and then to develop lessons that will be useful and meaningful to your students. That's why I am writing this book. I want to make your introduction to the Internet easy by helping you save some of the time you might otherwise spend wandering around out there in virtual space. I have spent a fair amount of time reorganizing and updating this second edition of the book to make sure you won't spend time wandering around it, too. I also want to suggest ideas that you can use in your classroom when you integrate the Internet into your style of instruction. All the lessons in this book are lessons you can take right into your classroom and put into action at your next class meeting. All the Web sites have been tested. I promise you: Give the Internet a chance, as your kids will learn from it.



Organization of *The Online Classroom*

This book has two sections: learning *(The Mechanics)* and using *(Lesson Plans and Other Ways to Use the Internet)*. Both sections talk about programs and components of the Internet. The second section contains lessons with clearly stated goals, rationales, objectives, procedures, and evaluation guidelines. Unlike typical books on the Internet that start out with the history of each type of navigation program available, this book starts out with the easiest things to do on the Internet and progresses from there. As the book proceeds and you become more confident in what you can do, the lessons become more challenging. In addition, because I want you to feel comfortable using the Internet, I have organized the book to provide you with lots of practice using a navigation program before you set it up for your kids to use.

When you feel confident about using the Internet, you will be able to teach with it better. That's where the lessons come in. Included in each chapter are teacher resources or lessons that you can use now. To make the lessons even easier, I have provided all the Web sites or links you will need. As you look at the lesson plans, you will see that some can be finished in a single day, while some are units of instruction that will take from two to five weeks (or more) to complete. You can use this book to integrate use of the Internet into your entire classroom curriculum. Once you have grasped the basics of how the Internet can serve you as a teacher, you will be walking the Web to explore your own questions and interests. You will discover the wealth of information out there that you would never have imagined was so readily available. You may also reinvent your entire approach to teaching and learning. All of that is up to you. The Internet can make you an actual teacher in an "online classroom" anywhere in the world.

You will notice that I have not stated exact grade levels for the lessons. I've been using computers and the Internet with elementary, middle-school, and high-school students, kindergarten to grade twelve, so I designed each lesson with the thought in mind that you can easily adapt it to fit your specific classroom situation. You can make each lesson easier or more difficult, depending on the grade level and ability of your students. When the kids are learning something new, they do not seem to mind material that might appear too simple; however, once they have learned a functional Internet process or technique, students are able to find their individual and appropriate levels of use and engagement.

All of the lessons encourage small-group work. Sitting in front of a computer by oneself can be lonely. Working with someone else is not only more interesting and more fun but also doubles your troubleshooting and problem-solving power. It becomes easier to figure out why the computer is not behaving as expected or where to search for some elusive topic of interest. The Internet itself encourages connections among ideas, so that when two or three students work together at a computer, the potential for connectivity increases proportionally. These pages, therefore, do not contain quiet-corner lessons that will not disrupt a classroom full of students. These lessons will stir up the noise of learning and provoke the laughter and talk of good ideas happening. This is good. Your job is to encourage the positive noise and discourage the negative, meanwhile monitoring the process to make sure that your students stay on task. In addition, if you can learn using this book on the Internet with a fellow teacher, you will enjoy both the book and the Internet more, too.

What You Need to Access the Internet

I hope I've whetted your appetite for using the Internet and teaching with the wealth of information it has to enrich your class. If so, here's what you need: Curiosity, a personal computer of some sort (either Macintosh or IBM-type PC), a high-speed modem, a telephone line, and appropriate software for a graphical connection. The computer, modem, and telephone line are relatively easy to get; the connection software may be a bit more difficult. I've also written this book for graphical-type computers: that means a Macintosh computer (which I do have) or a PC with Windows 3.1 or Windows 95. The examples that I give will come from a Macintosh Power PC 7200, but that really does not matter. The Internet is not computer-specific. That means, most of the screens will look similar whether on a Mac or PC. So if a window, screen, or picture in this book does not exactly match a window, screen, or picture on your computer, don't worry, you should notice some similarity. The bottom line is we will probably be able to do the same thing, even if we don't get there in exactly the same way. That means you just have to point and click (and occasionally type) to get where you need to go.

It depends on where you live in the U.S. as to what type of Internet access is available to you at the price you are willing to pay. Some cities and towns have access through a school district, county office of education, the state department of education, the local telephone company, or local businesses. Probably the ideal situation for a teacher is to have school system-wide Internet access and a savvy technician at your elbow to answer all your

America online

COMPUSERVE

prodigy internet

GENIE

questions and make the computer work when you cannot. I have that type of access in California through my university. Failing that, many commercial Internet providers are in business to supply you with the software needed to access the Internet. There are local and national commercial Internet providers. Some of the most readily available national providers are America OnLine (AOL), CompuServe, WOW, ATT, Prodigy, Genie, MicroSoft Internet Connection in Win 95, and NetCom. In the appendix there is a comparison of national Internet providers. Several regional telephone companies provide Internet access, as well as many local Internet providers. If you look in the Yellow Pages of the telephone book under "Internet" you will see many listings. In some states and areas, there are regional networks—some of them free called "freenets," some of them inexpensive—accessible by means of a local telephone call and hence available to teachers and schools and the public. On the down side, some places in the U.S. do not yet have this capability, but they should be getting access soon. I was going to list all the access providers out there, but the Internet is growing and the technology is changing so rapidly that my list would be out of date before this book is published.

The computer in my office at school is hard wired into the campus server—that way I do not need to use my telephone line to get on the Internet. To get on the Internet, I merely turn on my computer, click on the program icon I want, and I'm there in the blink of an eye. At home, I access that same server over the telephone lines using a 14.4 modem and a dial-up Internet access program called ARA (Area Remote Access). When I'm on the Internet at home, my phone line is busy. To gain Internet access to write this book, I took

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my Mac with modem with me to Etna, Wyoming. Using MacPPP (Point to Point Protocol dial up Internet access program) I dialed into a local server called CyberHighway.Net out of Boise, Idaho, and Freedom, Wyoming. When I give a presentation somewhere away from my campus, I use another server called Telis which gives me free 800 service anywhere in California, and ten cents a minute service when I'm out of California. This means I have three e-mail accounts, with three different e-mail addresses. But no matter where I am, I have access to the Internet, and I'm at the center of the universe of information and communication.

For practical purposes, you don't really need to know about the type of server that you have access to or the type of connection required or most of the other technical jargon and specs (that's what techies are for!). What you do need to know is that the Internet is there and accessible, it's mostly user friendly (and getting better all the time), and it's definitely filled with information that you can use in your classroom to make lessons more exciting and real for your students.

CYBER

Censorship?

The bad stuff: The Internet is a human invention, put together by computer savvy adults for their own various reasons. Some things on the Internet are not appropriate for everyone. Some things are questionable, some things are highly inappropriate, and some things on the Internet are just downright bad for children (and adults, too)! You can be sure that your students will find the good, the bad, and the ugly. Filtered among the Web sites you will see x-rated material, advocacy of violence, invitations to buy things that are prohibited to underage people, inappropriate invitations via e-mail to write to people who might have perverted intentions, invitations to purchase items with credit cards, etc. Don't let this get you down. There is not as much as the "nay sayers" say there is, and there is far more good stuff on the Internet.

Depending on what you read these days, there are "tons of smut" on the net, and there is no way to protect yourself or your kids—whether your own children or your students—from it. But the truth is the good outweighs the evil on the Internet, and there are means of protecting ourselves against objectionable Web sites. Most national Internet providers offer some type of screening program for parents or teachers to filter out the negative Web sites. America OnLine, for example, offers a "Protection Program." In addition, you can purchase one of several screening programs, if you feel it is needed. In my nearly five years of random surfing on the Internet, I must say that I have not encountered many objectionable Web sites. There are, however, some sexually explicit sites and questionable or objectionable Web sites on the Internet. When I see one, I ignore it. Kids won't. To that end, I tell my students some "rules of the road" that must be followed. In classrooms where teachers use the Internet all the time, they tell their students not to visit these Web sites, and then they regularly monitor their students' use of the computers. We do not want to stop all access to the Internet just because of a few Web sites that are questionable. It is part of our job as educators to teach young people how to cope with the unhappy realities of life. I believe that teachers and parents need to tell their kids what they should and should not do and then make the consequences of violating the rules fit the crime. That's discipline. That's education.

As a teacher, you can do a lot to help kids cope with the bad stuff in their world, including the bad stuff that assails them on the Net. One of your jobs is to encourage your students to stay on the right track. Another of your jobs is to be forthright with them in discussing the dangers that lurk, have always lurked, and shall forever lurk out there in reality. I've asked a lot of teachers and parents what they say to their kids. The following speech is more or less the essence of what most people say:

"There's good and bad on the Internet. I give you free access to the good, but I ask you to respect your fellow classmates and me and stay away from the questionable side of the Net. Please do not let me catch you surfing to restricted sites, as I will be forced to take action that will be less than pleasing to you. If you do not understand why pornography, violence, and other abuses are bad for you, stop by my desk after class and let's talk it over."

If your lessons are well planned and tight and packed with information, you'll be able mostly to keep your kids out of trouble. To ensure that will happen, you might want to develop an acceptable use policy for your classroom, school, or district. An acceptable use policy (AUP) is an agreement among teachers, students, parents, and school officials that outlines the rules that will be followed by everyone who has access to the Internet. Most schools have or are developing AUPs to maintain an orderly and effective use of the Internet. In Chapter 3 I discuss AUPs and offer some Web sites where you can read other AUPs to find ideas for writing one that will meet your needs or the needs of your school or district.

Now You're Ready!

There is yet another problem, the problem of time. The Internet is sometimes hard to leave. There is so much information out there and you want to see it all. Surfing the web, cataloging information, and making connections are addicting pastimes. I haven't solved this problem myself, but I do have a little advice. When people say to me "There is so much information out there, how do you know where to start, or stop for that matter?" I respond that when you go to the library, you don't walk in and say "There are so many books, I want to read them all." Instead you may browse for a while and wish to read lots, but eventually you settle on just a few books to take home. You must treat the Internet the same. There is a lot of information out there, but after looking around for a while, you need to start homing in on what it is you want to find and then set a limit on how much time you can spend online. Otherwise you can fall in and never come out.

Anyway, that's enough for now. There is so much more to know, but you won't get anywhere until you start using the Internet to help you out in the classroom. Thus, to learn to surf this ocean of information, you need to get wet. *Let's go surfing.*

Chapter 2:
The World Wide Web

If you read an Internet book published as late as 1994, you see the wonders of Gopher and Telnet lauded, and you are told how to access GopherSpace and FTP archives. If you keep reading, however, you will probably become confused. These programs are still used (I've devoted Chapter 7 to them), but they are not as user friendly as a generic World Wide Web browser. Thank goodness times have changed! Thank goodness for multipurpose browsers!

In this chapter we plunge into the World Wide Web (nicknamed "the Web") using one of the easiest navigation programs around: Netscape Navigator or "Netscape." But first, let me explain how the Internet works by giving you the big picture. I'll try not to be too technical, but feel free to skip over the next couple of paragraphs if you are not interested in how the Internet connects us all. The Internet is a global network of computers connected through communication links, such as ordinary phone lines. Some computers connected to the Internet, called "servers," store information that can be retrieved from other computers, called "clients." When you use your computer to retrieve information from the Internet, your computer is acting as a client, and it is getting information from a server, through the connections on the global network.

The World Wide Web consists of servers and clients on the Internet that communicate using a standard language. Using the same language allows different kinds of servers and clients to communicate with each other, even if they are made by different manufacturers. This language allows your computer (a client) to retrieve text, pictures, sounds, and animation from any server, via the Internet. However, to retrieve that information, you need a Web browser.

Browsers

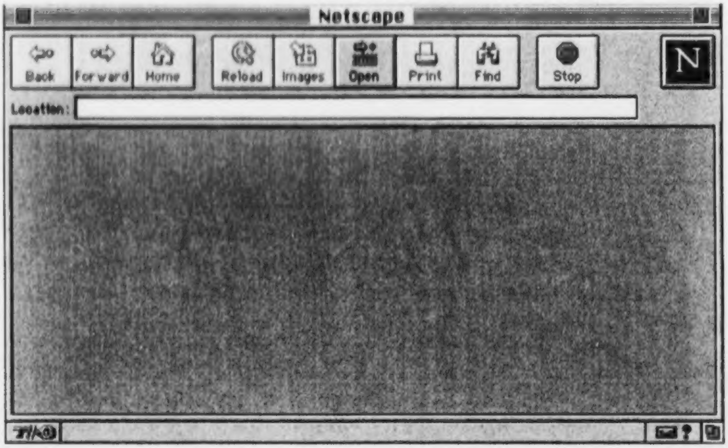
There are many Web browsers out there. You see titles like Cello, Mosaic, Lynx, Netscape, Quarterdeck, and Internet Explorer, among others. They all fall into two main categories: text based and graphics based. A text-based browser allows you to see just the words, whereas a graphics-based browser lets you experience images, sounds, and even animation.

The first browser I used was Mosaic. Mosaic was marvelous, if a little slow, but I was unaware of the existence of any other browsers. Then I read on a listserv that I could download for free a wonderful program called Netscape. So, I downloaded Netscape as an FTP file and gave it a spin. I have not used Mosaic since. Since then I've downloaded various updates of the original Netscape (Versions 1.1, 2.0, 2.02, 3.0). Just recently, I downloaded another browser, Internet Explorer for the Macintosh—one of the newer browsers available. That's how fast things change! Netscape and Internet Explorer are the best browsers available right now. Tomorrow or next week, someone else will develop a better browser, with faster download times, more built-in multimedia, and bells and whistles I cannot imagine. Until then, I'll stick with Netscape (and Internet Explorer too) as I browse the Web; only as a last resort do I use Gopher and FTP navigation programs. The Internet and ways to navigate it are changing every day. To be a successful surfer on the Web, you need to be flexible. If you're not flexible, you can easily become tangled in a spider web of information!

QUARTERDECK

Netscape does cost money. The good news is that if you are a teacher, you can download it for free at **http://www.netscape.com**. You can also download Internet Explorer from the Microsoft Web site at **http://microsoft.com**. Once at either site, you will need to indicate the type of computer (Macintosh, Windows, DOS, UNIX) you have, click on the correct link, and wait while it downloads. Both of these Web sites are busy, so the companies have provided mirror sites with the same programs. These programs are easy to download but they may take a few minutes because of their size! If you're too intimidated to download a program, you can probably acquire the most recent version of Netscape or Internet Explorer from your computer techie.

To work with any browser, you need to know some technical vocabulary. All the words I'll be using are in the Glossary at the end of the book, so if you come across something that is confusing, look back there for a friendly definition.



The Netscape browser window

Look at the picture of the Netscape screen above, and let's play with the buttons to find out what they do. If your computer and your browser are different from mine—and they probably are—don't worry, as you will see they are similar enough. Each version

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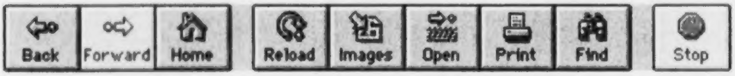
(Macintosh, Windows, DOS, UNIX) is a little different, so be patient, be flexible, and translate what I am saying into the bells and whistles on the screen right before your face. Netscape relies on these buttons and pull-down menus as the easy-to-operate controls of the program. You need not memorize them—it all comes with practice.

Tool Bar Buttons

The first row of square buttons is called the "tool bar display," and the first button you see is **Back**. If the Back button is faint, then it is not yet activated—because you have not yet gone anywhere, there's no "back" for Back to go to. As you surf along, Back will become darker; now you can click on Back to go back to wherever you were before, one step at a time, until you finally come to where you started.



Netscape's "tool bar display"

Click on **Forward** and it takes you—guess where?—forward along the path you have been traveling. This way you can move back and forth, revisiting sites without losing your way or having to key in long URL (Uniform Resource Locator) strings.

Home will take you all the way back to the opening Web page where you started. The default home page for Netscape is the Netscape Web site, but you can change that by going into Options. I recommend that you change it, because when everyone has their browser programmed to the same default home page, you will experience a long wait time to get started. I'll explain a trick for setting your home page in the section on Options.

Click on **Reload** when you are working with real-time graphics and when Netscape bogs down and seems to need refreshing. Reload will give you a new image. At some Web sites you can click on Reload every few minutes to reveal a new picture.

Images will turn on the graphics (if you have them off). I usually turn the "auto load images" function off if I am working on a modem. If I'm working on a dedicated line (in my office) I turn the images on. Because images take a long time to load and you can always click an individual image on if you want to see it, turning the images off is a time- and patience-saving device.

Open allows you to move to a new Web site. A dialogue box will appear where you type the Web site address or URL you want to go to. Key Return or OK, and your browser will take you there. **Print** prints the page. **Find** will help you locate something quickly on the Web page that you are reading. This button will do a keyword search.

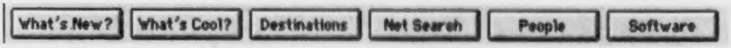
Stop can be one of the greatest buttons around. Sometimes your browser just doesn't feel well that day, and it grinds and grinds, and shall grind forever, trying to load a document. Click on Stop and give it a rest! Then, when you start over, it may load like a charm (and they call this scientific!). Stop is a great time-saver; one that I use a lot. Most browsers have a Stop function! Thank goodness, as waiting is something that I am not good at doing.

The **Go To** or **Location** box is located under the tool bar. This box displays either the field where you type the URL of your next destination or it displays the URL where you are right now.

Netscape's Go To box

Directory Buttons

Directory Buttons make up the third row, and they are for surfing fun. Click on **What's New** to see some of the hundreds of new Web sites that appear each week. **What's Cool** presents a list of potentially fun and interesting Web sites for that week. In a



Netscape's Directory buttons

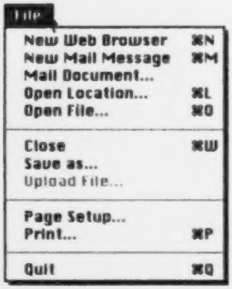
Netscape browser, **Handbook** will transport you to a great tutorial on how to use Netscape. This one's a biggie. Since I'm not covering every aspect of Netscape, Handbook will fill in all the details I'm leaving out. **Net Search** or **Net Directory** provides you with a list of search engines and directories for the World Wide Web. These buttons give you the capability to search the Web, either by key word or by category. The last button is **Software**. Click on it to discover the latest software available from the Netscape folks.

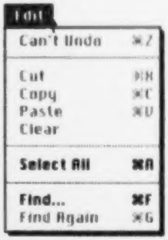
If you have a small screen, the tool bar buttons and directory buttons can be closed. Many of the features they offer are also available in the pull-down menus, which I'll talk about next.

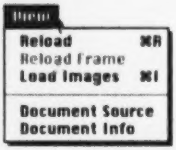
Pull-down Menus

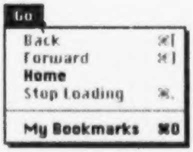
Pull down **File** and scroll down new browser, new mail message, open a location, and open file. Open location is the same as the open button. Open file means it will open an HTML file from your hard drive or diskette. Open file is used a lot when you are creating HTML documents, as this is how you check them for accuracy. File is also the location of Page Set Up and Quit. Always know how to quit a program!

Pull down **Edit** and you see the usual cut, copy, paste, and clear commands you find on most word processing programs. There is also a Select All option that let's you block a whole Web page. I use the Edit commands when I'm using my browser and a word processing program, blocking, copying, and pasting from the browser to the word processing program.

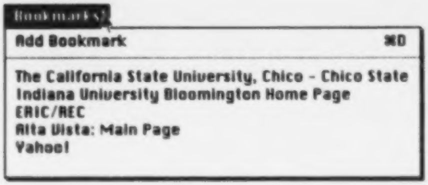

File
New Web Browser ⌘N
New Mail Message ⌘M
Mail Document...
Open Location... ⌘L
Open File... ⌘O
Close ⌘W
Save as...
Upload File...
Page Setup...
Print... ⌘P
Quit ⌘Q

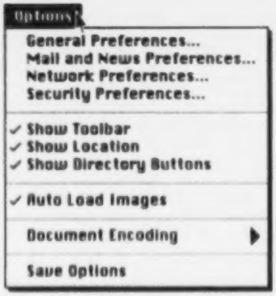

Edit
Can't Undo ⌘Z
Cut ⌘X
Copy ⌘C
Paste ⌘V
Clear
Select All ⌘A
Find... ⌘F
Find Again ⌘G


View
Reload ⌘R
Reload Frame
Load Images ⌘I
Document Source
Document Info


Go
Back ⌘[
Forward ⌘]
Home
Stop Loading ⌘.
My Bookmarks ⌘B

File, Edit, View, and Go pull-down menus


Bookmarks
Add Bookmark ⌘D
The California State University, Chico - Chico State
Indiana University Bloomington Home Page
ERIC/AEC
Alta Vista: Main Page
Yahoo!


Options
General Preferences...
Mail and News Preferences...
Network Preferences...
Security Preferences...
✓ Show Toolbar
✓ Show Location
✓ Show Directory Buttons
✓ Auto Load Images
Document Encoding ▶
Save Options

Bookmarks, and Options pull-down menus

Pull down **View** and scroll to Document Source to see that Web page written in HTML source code. In Chapter 5 you will learn more about HTML.

Pull down **Go**, and you are greeted with a history of the titles of every site where you have been during your current Web session. Pull down Go and click on the title of any document, home page, or link to which you would like to return directly (as opposed to going Back one step at a time).

Pull down **Bookmarks**, click on Add Bookmark, and *voilà*, whatever URL is currently on your screen will be added permanently to your bookmark collection—yours forever until you delete it. (URLs in Go are not saved; when you turn Netscape off, everything in Go will be gone.) Bookmarks is as nifty a time-saver as Stop. As you explore the Web, you will find sites to which you will want to return again and again. Bookmarks allows you to save your favorite URLs for quick and easy access. My bookmark collection is humongous, and with the newer browsers it is really easy to organize. Just mouse over to Window and scroll to Bookmarks. Click on it and you will see your list of bookmarks that you can organize into folders and then sort in alphabetical order if you want. By the way, if you are using Internet Explorer, Favorites is the same as Bookmarks.

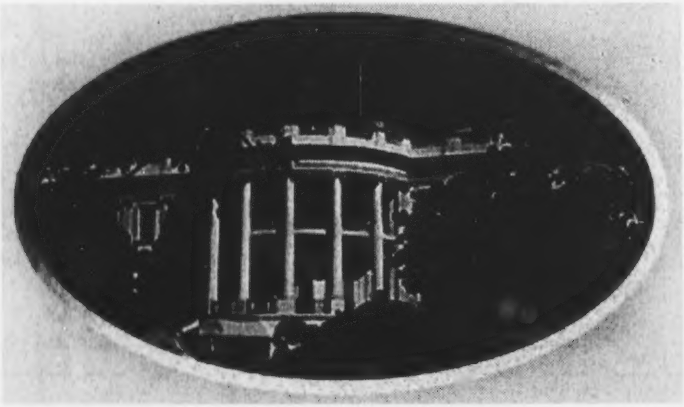
Pull down **Options** to set up Netscape to suit yourself. You set Preferences for the general display, mail and news, network, and security. You can turn off and on Auto Load Images, the Directory Buttons, the Tool Bar, and the Go To locations. Just remember, every time you make a change to something in Options, you must save it. If you do not save it, then Netscape will not remember what you told it to do the next time you turn it on. Depending on which version of Netscape you are running, you will see slightly different iterations of this pull-down menu. When in doubt, click on Handbook and get the correct configuration for your version.

Remember that trick I told you about changing your home page. This is where you do it. Pull down Options and scroll to General Preferences. A window will appear showing a set of files. Click on the Appearance file. The screen is divided into three sections: Toolbar, Startup and Link Styles. Look in Startup and you will see a prompt that says "Browser starts with" then "blank page" or "home page location" and a box. In that box, type the home page you would like to see every time you start your browser. I set my husband's browser to show my picture every time he starts up so he won't forget who I am.

Opening Your First Web Page

"Half the fun of going is getting there," say the tourist agencies. Now that you know how to have fun getting there, where is it, exactly, that you're going? The destination of your Web surfing with your browser is all of those pages out there that are the front doors to the libraries of knowledge behind them.

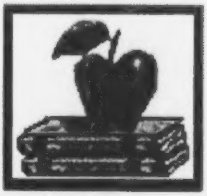
Let's surf over now to a famous place to find out what Web pages are like—the most famous address in America, 1600 Pennsylva-



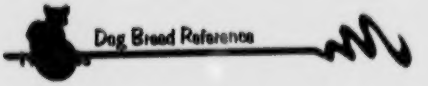
nia Avenue, Washington, D.C., the White House. In a browser, however, the address is called a URL (frequently pronounced "earl"). Click on Open, and when the dialogue box appears, type in this URL: **http://www.whitehouse.gov/**. In a few seconds, you will see a picture of the White House—you're in! (No security checks, no waiting in line, this is access!) After the greeting (changes according to the time of day) and the picture of the White House (also changes according to the time of day), scroll to the eight buttons: President and Vice President, Citizen's Handbook, Virtual Library, Help Desk, What's New, White House History and Tours, Briefing Room, and White House for Kids. Click on any of these buttons and be treated to what is happening right now in the White House. I especially like the History and Tours button as it gives a brief bio of each of the presidents and first ladies, but the White House for Kids button is a lot of fun, too. Click away on the different buttons and see what you get. Click on any of the links, and away you go—Forward and Back, click and surf. You've got the idea! Cool!

Scroll down that page and you will see words and images underlined (if you have a black and white monitor) or written in a different color (if you have a color monitor). Click on these underlined/colored links and you will automatically be transported to a related Web site. The first time I did this, I was already thinking: "This home page is going to make a great lesson for my class!"

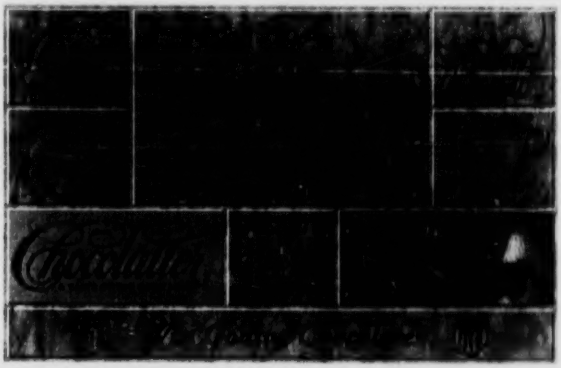
By pointing and clicking in your browser, you have already become a Netsurfer. You can point-and-click and link your way to thousands of home pages and, because at least 1,200 are being added each week (some estimates say 3,000 are being added each day), you have unlimited opportunities for finding great teaching materials.



Try another Web site. Click on Open and type in this URL: **http://www.celsmc.gatech.edu/BusyT/** for the Busy Teacher Home Page. Here you will find links to Archaeology, Art, Astronomy, Biology, Chemistry, Computer Technology, Ecology/Environment, Elementary School, English, Geology, High School Guidance and Counseling, History, Mathematics, Paleontology, Physics, Recess, Sciences (Other), Social Studies, and a Teachers' Reference Section. Carolyn Cole, who designed this Web site, wanted to provide teachers with an easy-to-use source for materials, lesson plans, and classroom activities. This Web site is easy to understand, so it is great for the Internet beginner, and a time-saver for the Internet pro.



If you love pets, try NetPets. Click on Open, type in **http://www.netpets.com/dogbreed.html** and find out if your dog is one of the recognized breeds on the list. I prefer the *Godiva Chocolates* home page at **http://www.godiva.com/**.



You have just typed in a few complicated URLs and you may be wondering why they have to be so long and complex. With 1,200 new Web sites being added each week, and each one needing a unique URL, they have to be long so they can be different. Once you know how to decode the letters and numbers of URLs, however, they become a little easier to cope with and remember. Let's decode the URL for the White House:

http://www.whitehouse.gov/

http://	means it's a HyperText document
www	means it appears on the World Wide Web
whitehouse	is the name of the server or computer where the account that we are seeking resides
gov	means that the domain of the server is the government

BEST COPY AVAILABLE

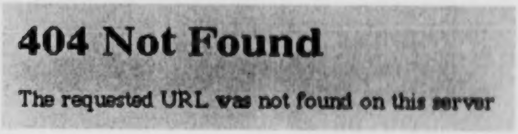
You are probably now wondering what I'm talking about. I'll try again. All documents on the Web are written in something called HTML (HyperText Markup Language). HTML has underlined or colored words and phrases called hypertext links or links for short. These links allow you to move from one location to another at the click of your mouse. Therefore, an http document is one that is written in HTML and has links to other pages on the Web. This is useful to know as it means you do not need to know how to do anything else other than type in http:// (and in some browsers you don't even need to type this—a nice time saver as I get tired of typing colons and slashes all the time).

Every piece of information on the Internet is on a computer somewhere in the world and every computer has a name. That name is called a server or host. The name of the computer for the White House is called "whitehouse" (which makes sense to me).

Finally, there is the domain of the server. There are several different domains, all of which are represented with a dot and three letters, such as .gov or .edu. "Dot g-o-v" stands for government and sure enough, the White House is part of the government. Other domains include .edu for higher education Web sites; .com for commercial; .k12 for K–12 education; .org for nonprofit organization; .net for network; and .mil for military. Sometimes if I know how to decode a URL I can determine if it is a reliable source of information. For example, I might rely on the information from a Web site developed by the government more than if it was developed by a commercial operation. This will make more sense as you surf the Web. Honest!

What to Do When You Don't Get to Where You Want to Go

Sometimes when you are browsing the Web, you are met by one of an array of negative responses. Chief among these are "403 Forbidden," "404 Not Found," and "Unable to connect to host."



404 Not Found

The requested URL was not found on this server

Wow! How can something be "forbidden?" If you get that warning, you are being told that you need to have a subscription or membership to access the site. Sometimes these are free sites, sometimes you have to pay, but in either case you will need to register for the site in order to get there. After you register, you will be given a password (which you must remember) to access the Web site again. No password, no go.

The "not found" message may indicate that the targeted Web site has moved to another location, has changed its name and URL, has just disappeared, or your Internet provider cannot find the location. When you get this message, try again in a little while, and it might be found. If it still is not found, then you might have to use a search engine and find the new URL, if it exists.

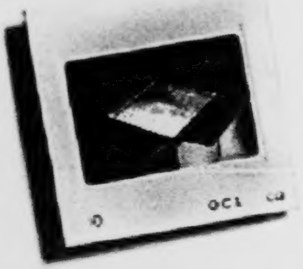
"Unable to connect" means the Web site is probably busy. If you try at another time, you might be able to connect. When school is first starting and all the kids are back on campus, I get the "unable to connect" message a lot because all the lines are busy! Once school has been in session about a month, I don't get the message any more.

Sometimes you may have trouble getting a URL to work. You may get another of those messages, "Code Not Found." If so, truncate the address—don't type the whole thing, backing up a segment at a time from the right-hand side—and try it again. Sometimes nothing seems to work, your computer seems to be getting clogged up, everything's down, and your browser just cranks and cranks away, but goes nowhere. That's when it's time to pull the plug. As with human beings, these hi-tech scientific machines, alleged to be devoid of personality, need a complete rest from time to time. Log out, turn if off, give it a rest, and then fire it up again; it'll probably work. I know this sounds strange, but the Web and browsers are not user friendly 100% of the time!

The Web is a living, growing, rapidly changing thing. There's no guarantee that a Web site you found yesterday will still be there tomorrow—and likewise, no guarantee that the Web sites that I recommend in this book will necessarily still be there when you try to find them.

Surf's Up

Now that you know how to ring the bells and blow the whistles, it's time to play a tune. Surf with abandon—play with the buttons and pull-down menus to find out what they do! See what you can find! Let the kid in you come out—go ahead, you can't break the machine or screw up the program! You'll be surprised at how easy it is to use these comprehensive, Web-embracing browsers. Click on **What's New** and **What's Cool**, then try Net Search and range widely. See for yourself what you think of this tool for exploring the resources found on the Internet.

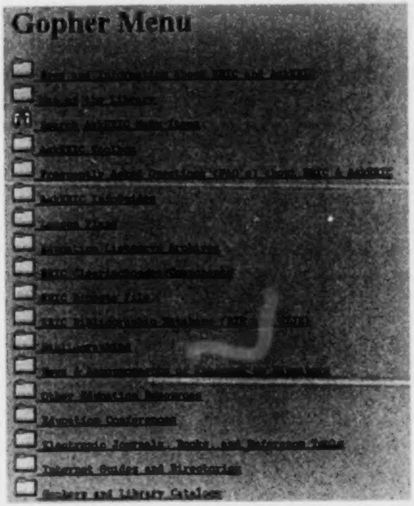


The beauty of most browsers is their similarity. Most have nearly identical functions, although the terminology for their buttons and options may differ. Netscape and Internet Explorer are the cool browsers this week—but next year? Who knows? I contend that if you have worked with either one of these browsers, you will be able to work with any of the newer browsers as they are developed.

Don't Read This Part Yet!

At the beginning of this chapter, I imply that the World Wide Web is the future. I also say that Gopher, FTP, and Telnet will soon be things of the past. It's nearly that way now. Unless you know about Gopher, FTP, and Telnet, the next couple of paragraphs will be meaningless to you, so skip right over them if you like, until you've read Chapter 7; then come back and read this page.

Here's why using a Web browser is better than all the other programs put together. If you want to access a file in GopherSpace, you do not need to change navigation programs—stay in your browser. At the URL prompt, type gopher:// in lowercase letters, followed by the address you want in GopherSpace. When you hit RETURN, a familiar looking set of gopher files will appear, and you can surf away in GopherSpace using your browser.



The same is true for FTP. At the URL prompt, type ftp:// and the address you want from FTP or Fetch. The same prompts for FTP will appear, and you take it from there. This is so much easier than having to work with three or four different navigation programs. The beauty of a Web browser is the ease with which you can go anywhere on the Web.

Why don't you give this a try? In your browser, Open this URL: **gopher://ericir.syr.edu** and you will get the ERIC—Educational Resources Information Center—Gopher.

To "work" a gopher screen like the one above, just click on any of the file folders and you will be transported to that item. I recommend that you try "Lesson Plans" and see what ERIC has to offer. You'll be pleasantly surprised.

In Your Classroom

In this chapter, I offer you no other "lesson plan" than this: After you have surfed with your browser for a while, I suggest you take your new found knowledge to your classroom and demonstrate the power of the Internet to your kids. Show them some of the things you have discovered thus far. Share your excitement and amazement with your kids. If you are brave, set yourself and your kids free. Let everyone see what everyone else comes up with! This is a tough lesson to evaluate, but you should be able to see eyes wide open in wonder and fascination, and you'll hear lots of noise! If you see and hear the above, the lesson was successful!

Chapter 3:

A Wealth of Web Sites

The Web has thousands of resources, but the type of resource I like the best are the megapages. A megapage is a Web site that contains links to lots of different sites. They are handy directories that someone has created to help you find "things" in a hurry. A great way to find tons of information and even more resources is to find some key megapages and then surf away. With so many sites on the Internet, and each better than the one before, it would be pointless to try to say which ones are best. In what follows in this chapter, you'll find about a hundred Web sites that you just cannot afford to miss if you're seeking resources for teaching. Some of them contain ready-made lesson plans, and others supply you with the information you need to design goal-oriented lessons that meet your objectives. Most of the sites are free, so click on Open and start typing in URLs. While there are a few Web sites that do have a registration fee, most will have a "freebie" area for folks like you and me.

Let me put in a disclaimer, however. I have organized the following megapages not in order of importance, but according to some basic curricular areas, except the first one, which offers general K–12 resources.

General K–12 Resources

Carrie's Crazy Quilt—Sites for Educators

http://www.mtjeff.com/~bodenst/page5.html

This all-purpose Web site offers curriculum resources in every area of study. Carrie is a high school teacher, so she has a good idea of what teachers want the most. It is an easy-to-access Web page with something for every teacher. The "Sites for Educators" is just one small aspect of her Crazy Quilt, but it includes search engines, and resources for Oregon, general educational, counseling and guidance, humanities, social studies, science, math, Internet in the classroom, and vocational and technical.

Kid's Web

http://www.npac.syr.edu/textbook/kidsweb/fastindex.html

This is a popular site, so don't be surprised if it is busy. The main Web site is a table of contents with listings in four general areas: Arts, Sciences, Social Studies, and Miscellaneous. Also listed are links to other digital libraries, other collections of Web sites for kids, and a list of some K–12 schools on the Internet. For the truly ambitious, the link "The Classroom Internet Server Cookbook" explains how to set up a Web server in your classroom. This page is part of a Web site from Syracuse University.

A Teacher's Home Page

http://pluto.njcc.com/~harris

A Teacher's Home Page

Peter Harris, a teacher and computer specialist at Robbins Elementary School in Trenton, New Jersey, has designed this page with *you* in mind. It is a list of resources that seems to get better every time I look at it. Check out Links for Teachers and Parents, PJ's Page for Kids, Newsgroups for Teachers, and Schools and Teachers on the Net. It's a good location to bookmark.

Common Knowledge Pittsburgh

http://info.pps.pgh.pa.us/local.html

The main page is a twelve-box matrix with all sorts of information about Pittsburgh Public Schools, which is interesting. But I like the box labeled "Internet Resources," which has it's own URL at **http://info.pps.pgh.pa.us/k12/www.html**. Here you can find other schools on the Net and general education resources, as well as resources for culture, language, the arts, and more.

K–12 Sources—Curriculum—Lesson Plans

http://execpc.com/~dboals/
k-12.html#GENERALK-12RESOURCES

One of my students found this page. She said "Eileen, you won't believe all the stuff on it." And she was right! When I first started going to this Web site there were only 185 links to sites of an educational nature. Now there are over 250, and I'm sure the list is growing. This mini-directory has everything from the Virtual Frog Dissection Kit to Music. Don't miss this Web site. If you want to find something specific on it, use the Find button in your browser to help you out. Dennis Boals developed this site, which is linked to an even larger Web site for busy History and Social Science Teachers. You will find it at **http://www.execpc.com/~dboals/boals.html**. If you check out all the resources Mr. Boals lists, you'll never leave your computer.

Kathy Schrock's Guide for Educators

http://www.capecod.net/Wixon/wixon.htm

Kathy has been working on this Web site for over a year that I know of, and it keeps getting better and better. Here you can find resources for every curriculum area, easy to find search engines and directories, lessons about using the Internet, and more. Truly

Kathy Schrock's Guide for Educators

an amazing Web site and one you need to keep going back to time and again.

The North Dakota ICICLE Project

http://calvin.cc.ndsu.nodak.edu/wayne/icicle.html

This Web site was developed by the people in North Dakota, where it gets mighty cold. Follow the links to resources in Computer and Technology Education; Elementary Education; Fine Arts; Health, Physical Education, and Recreation; Language Arts; Mathematics; Middle School Education; Music; Science; Social Studies; Special Education; and Vocational Education.

Sholom's Resources for Students and Teachers

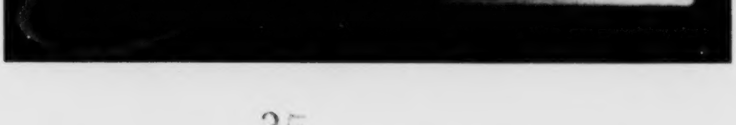
http://www.interlog.com/~sholeise/ResourceTables.html

Another matrix Web site, so you need a browser that supports tables to get the best picture of this useful little resource for teachers. Sholom has divided the site into six areas: Education, Humanities, The Sciences, Computer Technology, Mother Earth, and Miscellaneous. It has an easy to use matrix that my students seem to like, and if you have questions, you can e-mail Sholom, who is more than helpful.

The TradeWave Galaxy

http://www.einet.net/galaxy.html

Formerly the Einet Galaxy, this site includes links to Arts & Humanities, Business and Commerce, Community, Engineering



and Technology, Government, Law, Leisure & Recreation, Medicine, Reference and Interdisciplinary Sources, Science, and Social Science. Each link leads you to education sites related to these themes. Some Web sites refer to "The Galaxy" as a directory because it has links to more links than you can imagine. (Education is listed on this site almost at the bottom. Click on Find and you will be taken there straight away.)

Teachers Helping Teachers

http://pacificnet.net/~mandel/index.html

The purpose of this site is threefold: 1) to provide basic teaching tips to inexperienced teachers—ideas that can be immediately implemented in the classroom; 2) to provide new ideas in teaching methodologies for all teachers; and 3) to provide a forum for experienced teachers to share their expertise and tips with colleagues around the world. The Web site is one of the few that has a chat line for teachers.

Steve and Ruth Bennett's Family Surfboard

http://www.familysurf.com/

They created this site to help parents enjoy the fun of educational computing with their children. There is information about good sites for kids, lots of online activities, and a forum on how families can deal with computing issues in their household. It does not take a large leap of the imagination to make this page useful for teachers.

Classroom Connect

http://www.classroom.net/

The site for Wentworth Worldwide Media, Inc., with links to all of Wentworth's many Internet resources, is where you can read their newsletters and find K–12 resources, lesson plans, pointers, and lots more. This Web site is updated twice a week—these people are serious about teaching with the Internet! I like to stop at this site periodically just to see what's happening. You can also subscribe to their *Internet Newsletter*. Each edition is full of information about some aspect of the Internet, lesson plans, pointers to other resources, and calls for electronic pen pals.

Pacific Bell Blue Web'n

http://www.kn.pacbell.com/wired/bluewebn/

A search engine with pull-down menus opens this site. Just respond to the prompts, and within seconds the results of your search will appear. Pacific Bell has collected some of the best lessons, resources, activities, and projects available in Science, English, Math, History, Art, Business, and more. If you like puns, then you will appreciate the name of this Web site.

McRel Internet Connections

http://www.mcrel.org/connect/

McRel stands for Mid-continent Regional Educational Laboratory, one of several regional labs across the country. It is a non-profit organization aimed at improving the quality of education. McRel provides federally-funded services to Colorado, Kansas, Missouri, Nebraska, North Dakota, South Dakota, and Wyoming. Click on Internet Connections and find links to Special Connections, Education Resources, Subject Area Resources, Resources by State, and Internet Resources. You can also find acceptable use policies.

An Educational Interface with the WWW

http://www.cis.uab.edu/info/grads/mmf/EdPage/EdPage2.html

Still under construction, this site currently has links to Research Tools and Resources, Subject Index, The Teacher's Room, The Student's Room, Internet and Computer Information, Schools on the Internet, and Link Pages. I think the page shows great potential for teachers. I like straightforward pages with a minimum of fancy graphics, and this site meets my standards as it is easy to read, yet enjoyable to look at.

EdCentral Home Page

http://www.ehhs.cmich.edu/

Education Central
The Communication & Resource Center
for Professional Educators

Provided by Central Michigan University, this site has links in three major areas: The Educational Environment, Focus on the Profession, and EdCentral. EdCentral provides teachers with different definitions of resources available on the Internet. It's definitely worth your time to look at this site.

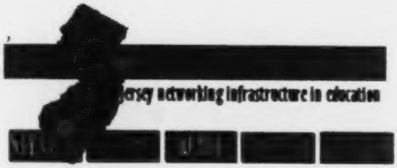
WWW Constructivist Project Design Guide

http://www.ilt.columbia.edu/k12/livetext/webcurr.html

This guide can help initiate experienced educators into designing constructivist, cooperative learning projects around the World Wide Web. You will find links to Global Studies, American Studies, Language Arts, Math, Science, Media Studies, ESL/Other Languages, and a Kid's Page.

The New Jersey Curriculum Home Page

http://njnie.dl.stevens-tech.edu/curriculum/currichome.html



This site contains lesson plans and online tutorials in various subject areas. It is part of a larger New Jersey in Education Web site—which is good, even if specific to New Jersey—that is truly related to curriculum we can all use.

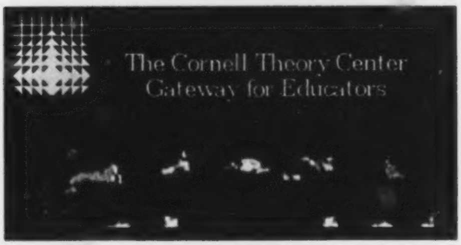
What's on the Web

http://edweb.sdsu.edu/edfirst/applications/WebCUE.html

The most unusual of all the pages listed in this chapter, this is a good essay (I know, dull and boring . . . but don't judge ahead of time) about the Internet and how you can use it. There are links to various Web sites and the information is useful.

Cornell Theory Center Gateway for Teachers

http://www.tc.cornell.edu/Edu/MathSciGateway/educGateway.html



The Cornell Theory Center
Gateway for Educators

Designed in blues, gray, and black, I find this site restful because it does not offer lots of moving script or loud colors. Since people found out how easy it is to make colorful Web pages with sound and animated pictures, it's almost impossible to find a straightforward page, but this is one of them! I wish for more like this one. It has resources for math and science as the URL indicates, but there are also resources in the humanities and arts.

Steve's Dump

http://forum.swarthmore.edu/~steve/steve/education.html

This page has grown over the past year and it has become better organized. Don't let the title turn you away from some useful general education resources for field trips, lesson plans, ERIC digests, and more. Bookmark it! You'll hear about this site again, as it is linked to Steve's Math Forum, which I'll talk about later.

Curriculum Storehouses with a Twist

http://www.songline.com/teachers/storehouses.html

Curriculum Storehouses with a Twist

Instead of a list of lists, this site contains annotations on some good storehouses of information for you, the teacher. Check out the Montessori Education Page and Houghton-Mifflin's Educational Place as just two examples of resources available to you.

Department of Education Sites

The Departments of Education in several states have posted huge resource pages with lots of links they think will be helpful to educators. I list some of them below but you can search for other State Departments of Education by going to **http://www.webcom.com/~piper/state/states.html**. This is the State Government on the Net Web site. You will find government resources for every state in the union.

Colorado Department of Education

http://www.cde.state.co.us/

Information about Colorado is nice, but click on Electronic Resources and Information and Interesting Sites for Students, Teachers, and Others.

California Department of Education Goldmine

http://goldmine.cde.ca.gov/

California curriculum frameworks, California legislation as it relates to schools and education, and links to lesson plans and other resources.

TENET Web

http://www.tenet.edu:80/

Texas does things in a big way, and this is a big site. If you are a registered TENET user, the whole site is accessible. If not, you can browse the TENET gopher (click on it), which is a pretty good consolation prize.

U.S. Department of Education

http://www.ed.gov/

Read the mission statement of the Department of Education and the National Educational Goals, access education guides, and gopher to "other educational resources."

And Now a Word from ERIC

ERIC Clearinghouse on Reading, English, and Communication

http://www.indiana.edu/~eric_rec/index.html

ERIC/REC are the people who publish this book. Click on any of the links to find out about Ask ERIC, ERIC digests, and the Family Literacy Center. If you click on Distance Education Program, you will find reference to a three-unit class on the Internet called "The Online Classroom."

Ask ERIC

http://ericir.syr.edu/

There are over twenty ERIC clearinghouses across the country, each dealing with a separate database of knowledge. This is the "main" ERIC clearinghouse Web site. At this site you can search the database, Ask ERIC, tour a virtual library, and more. It has a large graphic at the beginning, which does take some time to download, but if you are impatient, the same information is written below the graphic. Take your pick how you want to view the page.

Science and Math Resources

Useful Science Web Sites

http://www.hkstar.com/~hkiedsci/de-web.htm

This Hong Kong Web site includes twenty-four links to other science sites. It is part of a larger site called Digital Electronics, which has a tutorial lesson for high school electronics. You can find it at **http://www.hkstar.com/~hkiedsci/home.html**.

Virtual Library: General Resources

http://euclid.math.fsu.edu/Science/General.html

Here are over sixty math and science links. Some of them are good, others I would skip. Scan the list and see which links fit your needs. This is part of a larger Virtual Library site at **http://www.w3.org/pub/DataSources/bySubject/Overview.html**.

The Why Files

http://whyfiles.news.wisc.edu/

THE Why? FILES
SCIENCE BEHIND THE NEWS
FUNDED BY THE NATIONAL SCIENCE FOUNDATION

This online newspaper tries to explain the science behind the headlines. Surf here and click on previous issues, sports and science, a cool science image, and a Q/A forum.

Science Learning Network

http://www.sln.org/

Science Learning Network
Funding Provided by Unisys & The National Science Foundation

Once you get to this science site devoted to inquiry, click on resources and find lessons about water, hurricanes, the wind, and the Cow's Eye Dissection (which I talk about later).

The Messier Science Page

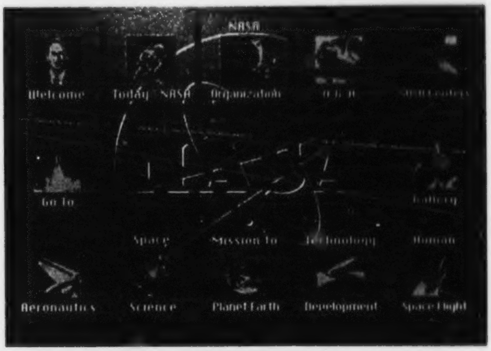
http://seds.lpl.arizona.edu/messier/Messier.html

From 1758 to 1782, Charles Messier, a French astronomer, compiled a list of a hundred diffuse objects that he thought were comets. As it turned out, the "comets" were nebulae, star clusters, and other beautiful objects found in the night sky. Go to this site to see some excellent graphics on the wonders of the night sky.

NASA (National Aeronautics and Space Administration)

http://hypatia.gsfc.nasa.gov/NASA_homepage.html

NASA offers a wealth of goodies for teachers and students, and there are links to many other sites of scientific interest. There also are other excellent NASA sites on the Web, and you can get to them from here. You'll probably find these sites busy at all times of the day and night; I've been successful about one time in three. It's worth the wait.


NASA
Welcome
Today@NASA
Organization
Go To
Gallery
Space
Mission to
Technology
Human
Aeronautics
Science
Planet Earth
Development
Space Flight

The Nine Planets: A Multimedia Tour of Our Solar System

http://seds.lpl.arizona.edu/billa/tnp/

At this comprehensive examination of our solar system, you will find links to just about everything now known about our nine planets; moons, orbits, the Hubble telescope and its photos of outer space, and much more. Turn your budding scientists loose, and give the world its first extraterrestrial colonists!

Stars and Galaxies

http://www.eia.brad.ac.uk/btl/sg.html

This site tries to explain how stars and galaxies behave, their origins and life cycle, and how they generate energy. An audio portion at the beginning will take about two minutes to download.

Welcome to the Planets

http://pds.jpl.nasa.gov/planets/

A tour of our Solar System from the Jet Propulsion Lab and the California Institute of Technology, this site goes along well with the Nine Planets Web site.

Virtual Frog Dissection Kit

http://george.lbl.gov/ITG.hm.pg.docs/dissect/info.html

The University of California at Berkeley and the Lawrence Livermore Labs offer a good way to familiarize your students with the anatomy of the frog, without having to breathe formaldehyde or handle a dead frog (a major disappointment, I admit, to a truehearted future biologist). The Dissection Kit is a superb application of virtual reality to classroom learning. Since this "kit" was developed, a few more have shown up recently.

The Cow's Eye Dissection

http://www.exploratorium.edu/learning_studio/cow_eye/

Along with a step-by-step lesson on the anatomy of a cow's eye, there is a short audio introduction at the beginning that has laughing kids and statements such as "gross." But hang in there, the purpose of this anatomy lesson is to learn more about how the eye works.

The Visible Human Project

http://www.nlm.nih.gov/research/visible/
visible_human.html

THE VISIBLE
HUMAN
PROJECT

The idea of this project is to create a three-dimensional view of a human male and human female. While quite complex, it is interesting. The Web site requires a browser that can interpret Java (see Chapter 6).

Archeology Resources

http://www.interlog.com/~jabram/elise/archmenu.html

I find that kids like digging around, and thus archeology can be quite fascinating. For a comprehensive listing about archeology, check out what the Royal Ontario Museum has to offer. I especially like the link titled "What Is Archeology" **http://www.interlog.com/~jabram/elise/archalog.htm**. But there are many other useful links at this site, too. "Pieces of the Past, Archeology Exercises" is quite fun as well. See URL **http://www.rom.on.ca/eeducate/zarchhis.htm**.

Science Lesson Plans

gopher://ericir.syr.edu:70/11/Lesson/Subject/Science

This bunch of mini science lessons collected by the folks at ERIC is designed and used by teachers and their students. It's a good source of ideas.

Rainforest Workshop

http://164.116.102.2/mms/rainforest_home_page.html

Here you can visit four different types of rainforest with lots of resources and lessons. This site was developed by Virginia Reid and her middle school students, and it is maintained by one of the students. A great example of what kids can do on the Internet!

SAMI (Science and Math Initiatives)

http://www.c3.lanl.gov/~jspeck/SAMI-home.shtml

I have found that math-only sites are difficult to locate, but SAMI has some. The "chatback line," "mathematics and science curricula," "other resources," and "rural resources" are all worth viewing. Click on Lesson Plans and Projects, and find a list of links to both math and science.

Virtual Library: Mathematics Gophers

http://euclid.math.fsu.edu/Science/Gophers.html

This list of mathematics resources in GopherSpace is not fancy, but it is useful.

Geometry Center Welcome Page

http://www.geom.umn.edu/

The Geometry Center

The University of Minnesota and the National Science Foundation have created this Web site devoted to K–16 education. Some of the stuff is easy, and some of it is complex. One of the lessons has to do with building rainbows. Sound interesting?

The Pi Page

http://www.ccsf.caltech.edu/~roy/pi.html

Everything you ever wanted to know about pi, including the first 50,000 digits of pi. There's even a section on the uselessness of pi.

English/Reading/Language Arts Resources

Shakespeare Headquarters

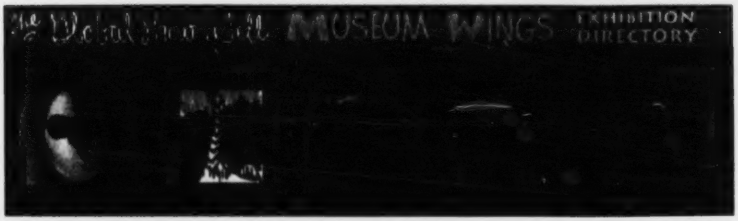
http://the-tech.mit.edu/Shakespeare.html

If you are studying the Bard, you must visit this Web site just to see a complete list of his comedies, tragedies, sonnets, and poems, along with a wonderful interactive glossary. When you are reading the text and you come across a word you do not know, click on it, and the glossary will appear telling you what the word meant during Shakespeare's time.

Global Show-and-Tell Exhibit

http://www.telenaut.com/gst/

At this Web site primary and elementary students can share with others what they have written or drawn about their favorite possessions, projects, and accomplishments. There are stories, drawings, and home pages of other little kids like yours. The beauty of the site is the ease with which you can fold it gently into your class, and your students can add their own show-and-tell to the site.



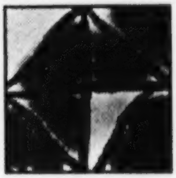
The Children's Literature Web Guide

http://www.ucalgary.ca/~dkbrown/index.html

This excellent Web site offers all sorts of links to good children's literature. There are also links for teachers, parents, storytellers, and kids. You are bound to find something of interest to you or your kids at this URL.

Internet Public Library Story Hour

http://ipl.sils.umich.edu/youth/StoryHour/



Just a link from the larger Internet Public Library Web site, you can read some online stories and look at pictures related to the stories.

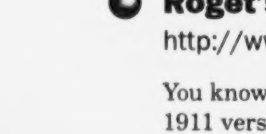
Kid's Space

http://plaza.interport.net/kids_space/

Another place where kids can show off their writing, painting, and thinking to others. If you are looking to publish your kids' work, search no more.

KidPub WWW Publishing

http://www.en-garde.com/kidpub/



I was visitor number 150,599 . . . so it's popular. At this site kids can publish the stories they have written. Seems like a natural for many elementary classrooms that I've been in. Check out this URL for some ideas you might want to use.

Roget's (1911) Thesaurus

http://www2.thesaurus.com/thesaurus/

You know of *Roget's Thesaurus*. Well, now it's online—at least the 1911 version of it is. I find this an interesting site that some of your kids might enjoy.

The Writer's BBS

http://www.writersbbs.com/

At this poetry and prose bulletin board for writers of all ages, there are free pages for authors.

Where great stories begin...

Resources Related to Interactive Projects

With more classrooms becoming connected to the Internet there are more and more interactive projects "out there." I won't try to describe all the projects that are on the Internet, but I will provide you with some URLs. The oldest is The Jason Project (which is now seven going on eight years old!) and you can find it at **http://seawifs.gsfc.nasa.gov/scripts/JASON.html**.

Where on the Globe Is Roger?

http://www.gsn.org/gsn/proj/rog/index.html

Roger and his car Bubba go all over the world. Your kids can go with Roger as he travels to Austria, Russia, Australia . . . and just about everywhere. Your kids will learn about money exchange rates, languages, food, and culture, and they can ask Roger questions along the way.

Odyssey In Egypt

http://www.scriptorium.org/odyssey/

ODYSSEY IN EGYPT

This site has information about a ten-week archeological dig in Egypt in 1996. Plans are being made for the 1997 dig, and you might want your students involved.

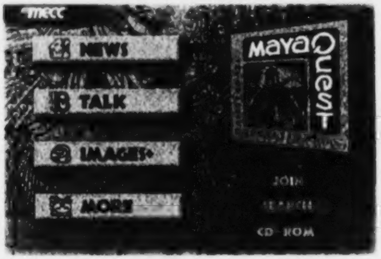
Academy One

http://www.nptn.org:80/cyber.serv/AOneP/internet.html

Check out this site for projects that involve every area of the curriculum. This is a must see.

Mayaquest 96

http://www.mecc.com/mayaquest.html



Mayaquest has been shockwaved. That means the introduction has 3D effects and music (again, more in Chapter 6). Mayaquest 97 will start in March, but you can still visit to look at past experiences with the Mayaquest team.

Online Projects

http://www.songline.com/teachers/online.html

In case I missed any projects, this is the master list of most of them.

Culture and Language Resources

The Internet is about communicating with other people, whether your best friend at the same school or with people around the world whom you do not know and probably never will know, except virtually on the Internet. Contrary to the often heard idea that computers depersonalize learning, computers now do more to put learners in contact with other learners, and people with people, than does any other communication medium. Help your students achieve global interpersonal dialogue by building keypal relationships and by plugging into Web sites that link your students to other people and other cultures.

World Cultures

http://info.pps.pgh.pa.us/k12/culture.html

If you want to reach out and touch a culture, check out this site. There are links to lots of other sites dealing the various aspects of human cultures: General World, African-American, Asian, European, Libraries and Exhibits, and The Americas. You can tour the Kremlin or Paris, go to several UNESCO heritage sites, view the symbols of Malaysia (national flag, car, etc.), journey into China, and more.

Human Languages Page

http://www.willamette.edu/~tjones/Language-Page.html

Tyler Jones is the guru of languages. He improves this site all the time. At this single URL you can find out something about almost every language spoken on earth. Check out the easy ones first, such as Spanish or French, and then try any other language you can think of—Croatian or Basque or Afrikaans—including languages that are no longer spoken, such as Middle English.

The Human-Languages Page

The following sites are at Appalachian State University Department of Languages. Each one includes information about course offerings and the culture the language represents.

General Language Page

http://www.acs.appstate.edu/~griffinw/website/index.html

The French Page

http://www.acs.appstate.edu/~griffinw/french.html

The Spanish Page
http://www.acs.appstate.edu/~griffinw/spanish.html

The Chinese Page
http://www.acs.appstate.edu/~griffinw/chinese.html

The Russian Page
http://www.acs.appstate.edu/~griffinw/russian.html

The Latin Page
http://www.acs.appstate.edu/~griffinw/latin.html

The Japanese Page
http://www.acs.appstate.edu/~griffinw/japanese.html

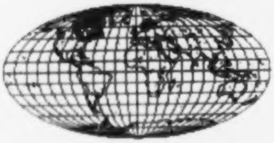
The ESL Page
http://www.acs.appstate.edu/~griffinw/esl.html

History and Social Science Resources

- **Social Studies Lesson Plans for Teachers**
  http://www.csun.edu/%7Ehcedu013/index.html

  Dr. Marty Levine developed this site with social studies teachers in mind. It links to lesson plans, resources, and current events.

- **The History Home Page**
  http://www.panix.com/~steel/



Bob Steel, a social studies teacher at Rye High School in Rye, New York, has developed this site for history teachers. Because surf time is hard to find (sez Bob), he has created this directory to Internet related history and social studies sites.

Teaching Resources for Historians

http://grid.let.rug.nl/ahc/teaching.html

From here you can link to Web sites about the American Revolution, the Jewish Holocaust in Europe, Archeology, and several other subjects of historical interest. This link falls under the Web site for the Association of History and Computing at **http://grid.let.rug.nl/ahc/welcome.html**.

The Social Studies Page

http://howww.ncook.k12.il.us/docs/socstd.html

At this big site with links to economics, geography, government, history and people, you can find the CIA Fact Book, as well as a tour of the Grand Canyon.

Social Studies School Service

http://socialstudies.com:80/socstud.html

This major social studies site is a quick way to find all the other social studies and history sites.

1492 Exhibit

http://sunsite.unc.edu/expo/1492.exhibit/Intro.html

This Library of Congress exhibit that follows the 1492 voyage of Christopher Columbus includes maps and graphics.

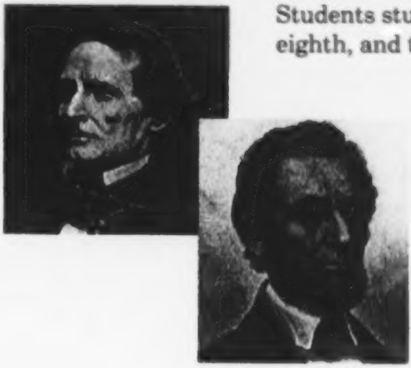
History Buff's Home Page

http://www.serve.com/ephemera/historybuff.html

Devoted to newspaper stories that have historical interest, this site starts with a cute graphic of a library. By clicking on the stacks, you go to various places. I was interested in the story about Tad Lincoln, but there are also other stories about the Civil War, the circus, the Old West, and believe it not, wallpaper.

American Civil War Home Page

http://funnelweb.utcc.utk.edu/~hoemann/cwarhp.html



Students study the American Civil War in the fifth, eighth, and tenth or eleventh grades in most districts. Sometimes the battles are recreated, and recently dry and dusty old history lessons have come to life thanks to a PBS documentary. With timelines, maps, documents, diaries written by young and old alike, pictures, and more, this site is a special hit with middle-school teachers. But if you teach any aspect of American history, you will want to add this site to your list of bookmarks.

History Social Science K–12 WebPage

http://www.execpc.com/~dboals/boals.html

You were first introduced to a link from this site under General Resources (remember over 250 Web sites). Well, this is the home page, and it is devoted to history and social science. I have no idea how many links are in this compendium, suffice it to say there are scads. Another lifelong adventure will be just going through all the Web sites at this one URL.

American Revolution to Reconstruction

http://grid.let.rug.nl/~welling/usa/revolution.html

Part of a series on American History, this is an interesting site with lots of color. I'm biased, however, because I was a history major.

Welcome to the Civil War Center

http://www.cwc.lsu.edu/

To complement the American Civil War Page, you must see the Civil War Center. These folks have provided over a thousand links to information about one of the bloodiest wars in our history. There are movie clips, audio files, and other goodies here as well.

Suffrage History

http://www.pbs.org:80/onewoman/suffrage.html

Mostly text, this PBS site tells the history of women's suffrage.

National Flags

http://155.187.10.12/flags/nation-flags.html

If your kids are doing reports on nations around the world, then they need this site. You can get images of flags from Argentina to Zambia, and more flags are being added on a regular basis.

CapWeb—A Guide to the U.S. Congress

http://www.ascc.org/capweb/

To get access to the Senate and House of Representatives, visit this URL. There are also other links to the federal government from this site. Another similar site is THOMAS, named for Thomas Jefferson. You will find it at **http://loc.thomas.gov/**.

Museums on the Web

Franklin Institute of Science Museum

http://sln.fi.edu/tfi/welcome.html

THE FRANKLIN INSTITUTE
SCIENCE MUSEUM
OUR DOORS ARE ALWAYS OPEN

The first online museum I entered is still one of my favorites. Here you can find lessons, science demonstrations, online exhibits, and just plain fun.

Exploratorium Home Page

http://isaac.exploratorium.edu/

Visit the San Francisco Exploratorium at the Palace of Fine Arts. You can click on the World of Science and the Learning Studio to go to new worlds of information.

Ocean Planet Home Page

http://seawifs.gsfc.nasa.gov/ocean-planet.html

This Smithsonian exhibit looks at the power of the ocean. To quote them, "it plumbs the depths of the watery world"... but I wouldn't want to go that far. The many facets of this site will take a bit of time to explore.

OCEAN
PLANET
SMITHSONIAN

Resources at the Smithsonian

http://www.si.edu/resource/start.html

If you liked the Ocean Planet, then you might like to search the Smithsonian for other exhibits and resources. Click on Open and type in the URL above and the nation's attic will be at your fingertips.

WebMuseum: The Louvre

http://www.zmall.com/wm/

Maybe the most famous museum of all, you will see exhibits change periodically (keep going back to catch up on the great Masters). I have you going to one of the many mirror sites of the WebMuseum (a Web site from Starkville, Mississippi), because I almost went there for a teaching job.

School Sites

There are lots of megapages developed by elementary, middle school, and high school students and/or teachers. I find these sites interesting as they give me ideas for lessons, projects, or just for developing home pages.

K-12 World Wide Web Sites

http://www.sendit.nodak.edu/k12/

Many schools that are online are listed on this Web site. After you have made up your home page, you can add it to this site, too. It's fun to see your school listed on an another Web site. In addition, you can browse the home pages out there for many good ideas about lessons and activities you can do with the Internet.

Vose School Educational Resources

http://www.teleport.com/~vincer/starter.html

This example of a home page designed and maintained by a school is a standard to aspire to! Vose School presents you with more resources than you will have time to use. Some of them are duplicates found on other lists, and some are unique to Vose. I especially like the "Kidopedia"—an encyclopedia designed by kids for kids to use and a unique idea you can use in your classroom. Beyond screens full of information, teachers and students share with one another and with you what they are doing on the Internet. Lesson plans, work done by the kids, ideas that you can adapt for your classroom—if it works for Vose, it'll work for you. Vince Ruggiano, Vose Webmaster, updates the site regularly and keeps the wealth of information timely for Vose teachers and for you. Recently the site started using a frame format, so you will need a browser that supports this component to see the true value of this Web site.

Project City Elementary School Home Page

http://www.shastalink.k12.ca.us/projectcity/PCHOMEPAGE.html

There are many places of interest on this home page. Check out the World Wide Creative Writing Project and the Blue Rivers of Salmon Project. Your students will have fun participating in one or both of them. They might even be able to create a spin off from one of the projects that will fit them better. There are links to projects, resources, and fun things for kids to do. Just scroll down the Project City Elementary School Home Page and you will find something of interest.

How to Teach Using the Internet

I bet you can hardly wait to get started. It's just about that easy, but there are three other things to think about: 1) acceptable use policies (AUP), 2) room arrangements, and 3) lesson planning. These three things are not nearly as much fun as looking at Web sites and deciding what you are going to do with them.

You know that the Internet is a handy tool to find references and resources from all over the world. You were just given a wealth of sites from which to choose, and I hope you have a good idea how to use both your computer and the browser program that you have installed. The first time I did a workshop I thought I had it all figured out, until I was led into a beautiful Macintosh lab with thirty computers, all a little different from each other. I did not know how to turn on ten of the computers. Lucky for me, I knew my browser, Netscape, and the lesson went much better than the initial panic of not being able to help folks turn their computers on! Learn how to use your computer and your browser program before you start letting your kids get online. There's a good reason for this: Your kids will know more about the Internet than you will, (which is great, as they are a resource you can use) but you may have to bail them out. If you don't know the computers or the programs, you are stuck.

While you are learning all about your computer(s) and the browser program you are using, you should also be studying AUPs. These are the policies that you are going to have in place to assure parents, teachers, and students that you are using the Internet for educational and curricular purposes. There are many sample AUPs on the Web. I suggest you look at a number written by other teachers before writing one and having it approved by your school. See some of these sites for acceptable use policies:

- **http://152.30.11.86/deer/Houghton/edel666/F95/Fuchs3/HOMEPAGE.HTML#examples**
- **gopher://riceinfo.rice.edu:1170/11/More/Acceptable**
- **http://www.songline.com/teachers/usepolicies.html**

Acceptable Use Policies

Also check out a Parent's Guide at **http://www.cais.net/cannon/memos/parents.htm**, the Bill of Rights for Electronic Learners at **http://spacelink.msfc.nasa.gov/Instructional.Materials/Video.and.Activity.Guides/Connecting.to.the.Future.Video.Guide/Part.8.Appendices/Section.4** and Street Smart on the Web at **http://www.yahooligans.com/docs/safety**.

YAHOOLIGANS!

After you have developed the AUP, inform your students, their parents, and everyone else about your policies. Have your students and their parents sign the AUP, and then stick to it. I know this is difficult to do, especially if one of your super-kids breaks the policy, but it has to be done.

There is much concern about kids getting in X-rated or questionable Web sites, and you need to have an AUP in place to assure parents that you are not aiding and abetting any questionable situations. I am not for censorship on the Internet as I am not for censorship of books, because, like a library, the Internet has a wealth of information meant for all people. I *am* for teaching kids the appropriate "surfing" behavior they must use in my classroom.

When your students and their parents have signed the AUP, you need to give your students time to practice using the computer and the Internet. They need it as much as you did. In the best of all worlds, you have one computer for every two kids, but that is a dream that won't happen any time in the near future. You will probably have between one and four computers in your room, and if you are lucky all of them will be connected to the Internet. I like to have two students work together. The Internet is an interactive medium, so let two kids interact with it. This will lead to some noisy activities, so be prepared.

You do not have to change the desks in the room to accommodate the computers, but you do need to have all the computer screens facing toward you. While it might look neater to have all the computers in a "private" area, or facing toward the back of the room, these arrangements will not allow you to monitor what is happening on a regular basis. Also, computers with screens facing the back of the room tend to have more games played on them, and that is not the whole purpose of having a computer on the Internet in your classroom.

If you want to change the room arrangement, I've found that computers placed along the sides of the room facing toward the center of the room affords me a good view of all the screens with just a quick glance. It does have the drawback that everyone else can see the screen too, which can be distracting if you are trying to teach one group of kids while another group is visiting a great Web site.

The next thing I do is change the font size on my browser so I can see the print from a distance. In Netscape you do this by pulling down the Options menu, clicking on General Preferences. Here you will see a series of file folders. Click on Font and change the size from 12 to 24. If you are using Internet Explorer, there are two buttons on the screen that adjust font size; click on the one that makes fonts larger.

While you are modifying font size, you might want to think about modifying the volume too. Many of the newer Web sites have great audio, but how much audio can you stand? Figure out what is best for you and your class and follow that. For me, I have the volume on as low as it will go as I don't deal with distractions very well. Volume, by the way, is a function of your computer and not a function of your browser.

After you have an AUP and the physical arrangement of computers and desks figured out, you need to do some analysis as to the type of lessons you want to teach. Not every lesson is "Internet compatible." According to the folks at Classroom Connect (**http://www.classroom.net/**), the best lessons are research oriented, because some type of advanced or higher-order thinking skills occur and allow for compare and contrast strategies. I contend that every one of your Internet lessons has to have a rationale, objectives, and a way to evaluate the outcome. You have to know every aspect of the lesson and be able to justify why it is important to your students' learning. While surfing the Internet is much fun, if it is not goal oriented, it is merely practice using the tool. Because you are using this tool as a teaching device, you want your kids to use their time wisely and well, and you want to be able to evaluate the product of their learning in a logical and useful way.

CLASSROOM
CONNECT

Given the last few paragraphs, now's the time to *do it!* The Internet is the most comprehensive collection of resources you will ever have access to and it definitely belongs in your classroom *now*.

Chapter 4:

Searching on the Web

You have worked with your browser on the Internet and had a chance to look at some of the Web sites listed, and you're thinking "This is fun!" And it is! But you might be wondering how you find something when there is not a convenient URL to follow? Good question. That, by the way, is the topic of this chapter. You are going to learn how to search the Web using directories and search engines.

Remember that old saying "Give a person a fish, feed him for a day; teach a person to fish, feed him for a lifetime?" Chapter 3 was the fish, and while those "fish" will keep you busy for quite a few days, they did not teach you how to fish. So let's learn how to "fish the Web."

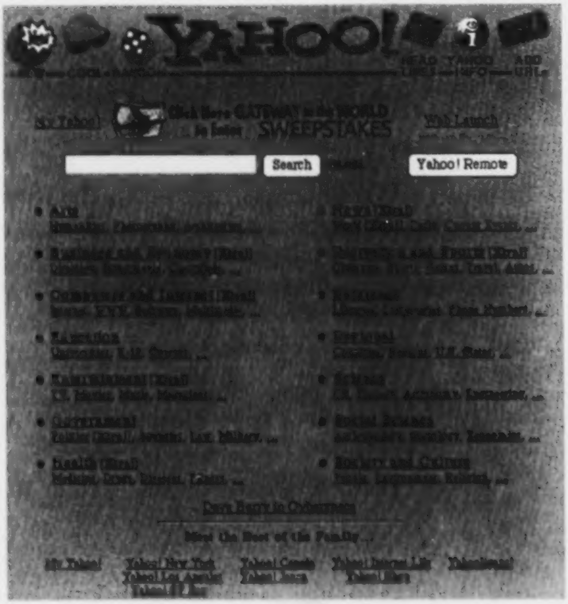
Two Main Ways to Find Information

The Web is big and growing larger every day. Fortunately, there are a couple of ways to help you find the information you want. They are directories and search engines, and you need to know how to use both. Both are easy to use and both will provide you with the same type of information (although frequently not exactly the same information).

When you are learning how to define words, you use a dictionary. When you want to know something about a particular event, you use an encyclopedia. When you want to find out several words that mean the same thing, you use a thesaurus. When you want to find out the geographical location of a country, you use an atlas. Each source provides information in its own particular way, and somewhere along the line, you had to learn how to use them. You learned about alphabetical order, guide words, latitude, longitude, and you had hours of practice finding things in dictionaries, encyclopedias, thesauri, and atlases. The same is almost true for directories and search engines. You don't need guide words to make the Internet directories and search engines work for you. What you do need is a sense of logic. Maybe guide words are easier to use than directories and search engines after all?

Directories and search engines both live on the Web as full-fledged Web sites. They have URLs like every Web site listed in this book. You can get to any directory and search engine the same exact way you get to any other Web site. Click on Open or the Open File icon in your browser, type in the URL, and hit return. That's the easy part. The hard part is trying to explain why there are two devices to get the same information.

I think the best way to do that is to look at one directory and one search engine so you can see for yourself. The directory I have chosen is Yahoo at **http://www.yahoo.com/** and the search engine I have chosen is Alta Vista at **http://altavista.digital.com/**. I chose Yahoo because it is the largest, oldest, and most used directory on the Internet. I chose the Alta Vista search engine because it returns a lot of information in an easy to read format. Both sites are commercial ventures, so don't be surprised to see advertising. Advertising is what pays for their development.

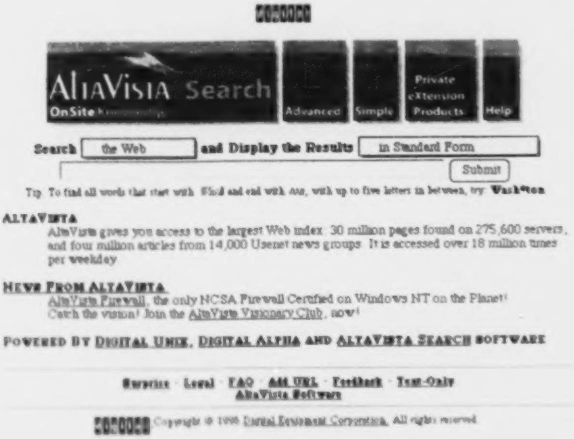


The Yahoo Web site shown at left has some cute graphics that link to what's new, what's cool, and other fun information. Then comes the advertisement. After that is a box with a Search button next to it, and following that are

BEST COPY AVAILABLE

two columns of words, called categories. In each category there are subcategories. If you want to find the phone number of a friend in Minneapolis, you will click on "phone numbers" under the category of Reference. From there you will see a list of more subcategories, narrowing down the field until you finally find the Minneapolis phone book. If you are seeking some information about Frank Lloyd Wright, you would click on Architecture (under the Art category) and soon another screen appears that lists topics about architecture. You then select a subcategory that narrows the search down even farther. You keep narrowing your search until you find all the Web sites that Yahoo has screened that deal with Frank Lloyd Wright.

A search engine goes about this process in another way altogether. The Alta Vista Web site is below. It has the required advertisement, a pretty picture (I like mountains), and boxes for Advanced Search, Simple Search, Surprise, and Help (look at those another time . . . they are kind of fun). Read down the screen until you come to Search and a pull-down menu with "the Web" displayed, and a request about how you want the results displayed. Keep the choice "standard," as it is easiest. You will see a blank box. In that box you will type a key word or phrase. After typing in your key word or phrase, you press return or click on the Submit button. Soon Alta Vista will display a list of Web sites related to your key word search. Alta Vista, and all the other search engines, use key words or phrases to narrow your search pattern. Directories are based on a categorical hierarchy from general to specific. So in the Alta Vista search engine, if you were looking for your friend in Minneapolis, you might type in Minneapolis Telephone Book, and see what happens. If you were looking for information about Frank Lloyd



ALTAVISTA

AltaVista gives you access to the largest Web index: 30 million pages found on 275,600 servers, and four million articles from 14,000 Usenet news groups. It is accessed over 18 million times per weekday.

NEWS FROM ALTAVISTA

AltaVista Firewall, the only NCSA Firewall Certified on Windows NT on the Planet!
Catch the vision! Join the AltaVista Visionary Club, now!

POWERED BY DIGITAL UNIX, DIGITAL ALPHA AND ALTAVISTA SEARCH SOFTWARE

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Wright, type in Frank Lloyd Wright, and see what happens. Because Alta Vista and many search engines are trying to be helpful, it will also show you a rating of the "hit." The rating shows how reliable the search engine "thinks" the hit is to what you really want. (Now, how a search engine can know what I want is debatable, and how a computer can think anyway . . . but let that be for now.) In Alta Vista, the best rating is 1,000 and the poorest rating is 0, and it relates to how the words in your search match up to the words in the headers and titles of the Web sites it returns. In either a directory or a search engine, you need to practice logic, and that is what makes using these such useful teaching tools for your kids.

Let's have some fun, and do an actual directory vs. search engine search. I'll lead you through it step by step, then we'll learn a little bit more about how these critters are developed and how to do Boolean searches. Finally, we'll try a scavenger hunt that you can do first, then you can have your class do it.

In the box below are the categories and subcategories that Yahoo is using right now. Let's search for information on Frank Lloyd Wright. He was an architect, so click on Architecture under Arts. From there you will find the following list of subcategories that looks something like this:

Directories (10)
Indices (16)

- Architects (110)
- Architectural History (5)
- Books@
- Buildings and Projects (134)
- Civil Engineering@
- Companies@
- Countries and Cultures (16)
- Courses (7)
- Events (21)
- Exhibits (12)
- Forums (4)
- Institutes (102)
- Landscape Architecture (31)
- Magazines@
- Museums (8)
- Organizations (58)
- Publishers@
- Resources (8)
- Software (5)
- Urban Planning@

This list of subcategories has something to do with Architecture. You might notice there are (numbers) after some of the listings, which means there are that many links when you click on that subcategory. If an @ appears after some links, it means that if you click on this category, you will be given a list of other related subcategories and a list of links. When you come across an @, you know you are almost at the end of your search.

Clicking on Architects (110) will offer an even narrower list of sub-sub-categories:

- Companies@
- Masters (49)
- Personal Exhibits (57)
- Resumes@
- Studios (1)

It's obvious that you will click on Masters (49) because Frank Lloyd Wright was definitely a master architect. Here you have narrowed your search down, because on the next screen, the last choice will be Frank Lloyd Wright. If you click on that, you will get twenty-three links. See what I mean by logic? You need to have some background information about a topic, and you need to have a general idea of where you want to go.

Now let's do the same search with the Alta Vista Search Engine (**http://altavista.digital.com**). At the main screen you type Frank Lloyd Wright in the box and click on Submit. Alta Vista quickly comes back with the following message:

> "Word count: Lloyd:125816; Wright: 277851; Frank: 499217 Documents 1-10 of about 70000 matching some of the query terms, best matches first."

That means, Alta Vista "looked" through its database and found 125,816 matches for Lloyd; 277,851 for Wright; and 499,297 matches for Frank and 70,000 matches for all three words together on the same page; and it returned to you the ten best matches. Each match tells you the URL, the title of the URL, and a few words about the material or information in that URL. Your job now is to select the best URLs for Frank Lloyd Wright and you have lots of choices.

In either case, with a directory or a search engine, you have to use some logic—or that uncommon quality called "common sense." Also, if you look at the two sets of lists, you might notice there is some overlap. That's good. It says you are on the right track. If I don't get any overlap, I wonder if I have done the search correctly.

What to Use

Now that you've had a little taste of both a directory and a search engine, you might be asking which is best? I wish I really knew! Let me offer you a few advantages and disadvantages for each and you can make the decision.

Pros and Cons for Directories

Directories are good browsing devices. I use them as a tool to guide me to material I might not find any other way. I like it that they are orderly, moving from general information to specific information about a topic. Also, a directory is made by real people who have reviewed the sites and used some sort of selection process. For this reason, I really like to use directories when I am working at schools.

There are, however, disadvantages to them. If you don't know the category to start with, you might never find your information. That's why directories have a box where you can type in a key word and do a search "manually." If you can't figure out a specific category, then use a search engine. Also, there is the possibility of missing URLs because they have not been reviewed by the people who develop the directory. New URLs are constantly being added to the Internet and it is next to impossible for reviewers to screen, categorize, and cross-reference every URL on a daily basis.

Pros and Cons for Search Engines

When you know the key word or phrase, or the specific name, a search engine is an efficient way to find information. In the Frank Lloyd Wright search, we were led directly to a list that in the end could contain 70,000 hits. That's impressive.

However, there is a drawback. You need to know a key word or phrase, and you have to be willing to look through a bunch of hits that might not be relevant to your needs.

Take your pick, directories for categorical searches, search engines for key word searches. Depending on your needs, both can provide you with lots of information.

Other Web Sites for Searching the Internet

Since you have just worked with Alta Vista, you can type in "search engine" in the query box, and see what comes up. You'll be surprised at how many search engines and directories are on the Web, and more are showing up daily!

I've listed a few directories and search engines on page 62. Go to them and bookmark the ones you think you will use the most. My favorite directories are Yahoo, Magellan, A2Z, and Yahooligans. The last one is a directory made for kids, and it's really a great idea. My favorite search engines are Inktomi, WebCrawler, Lycos, InfoSeek, and Alta Vista, but these are just a few of them.

If you look at the list, note there are more search engines than directories. That's because search engines are easier to create than directories. With a directory, you need personnel to screen Web sites, put them into categories, and cross-reference the links. That's not the case with search engines.

What I look for in search engines are speed. I'm not the most patient person in the world, so I like the speedier engines better than the sluggish ones. However, some of the speediest ones also produce the most amount of garbage. Search engines look for matches to a key word. When we typed Frank Lloyd Wright, we got 70,000 hits. Are there really 70,000 Web sites out there that mention Frank Lloyd Wright? Or do some have Web sites Lloyd Wright or Frank Lloyd or Frank Wright or Wright Frank or . . . ? You get the idea. There is something called the "noise to hit ratio" and some search engines are famous for their "noise." Alta Vista can be a "noisy" search engine since it will return many hits not relevant to your search. For that reason, I like to use a couple of search engines and compare and contrast their list of hits. Inktomi and WebCrawler are my two favorites because they return fast, "not noisy" search results.

Directories	URLs
A2Z	**http://a2z.lycos.com/**
The Magellan Internet Directory	**http://www.mckinley.com:80/mckinley-cgi/browse.pl?MAIN**
Yahoo	**http://www.yahoo.com/**
Yahooligans	**http://www.yahooligans.com/**

Search Engines	URLs
Alta Vista	**http://altavista.digital.com/**
InfoSeek	**http://home.netscape.com/escapes/search/search1.html**
Inktomi	**http://inktomi.berkeley.edu/query.html**
Internet Resources Meta Index	**http://www.ncsa.uiuc.edu/SDG/Software/Mosaic/MetaIndex.html**
Lycos	**http://www.lycos.com/**
Magellan	**http://www.mckinley.com/**
MetaCrawler	**http:metacrawler.cs.washington.edu:8080/index.html**
Open Text	**http://www.opentext.com:8080**
Search and Retrieval Engines and Indices	**http://www.gen.org/web/html/SOREGION/SEARCH.htm**
Search Com	**http://www.search.com**
Search the Entire Web	**http://www.scsu-cs.ctstateu.edu/lib/worms.htm**
Starting Point	**http://www.stpt.com/**
W3 Search Engines	**http://cuiwww.unige.ch/meta-index.html**
WebCrawler	**http://cuiwww.unige.ch/meta-index.html**

Use each of the search engines and directories listed here and bookmark the ones you like the best. If you want more to choose from, search for search engines using any of the search engines here, and you will be rewarded with even more!

Boolean Searches

There's one more thing to know: how to do a Boolean search. Some, not all, of the search engines listed want you to do Boolean key word searches. I remember the first time I heard about that kind of search. It was during my MA stats class, and I dreaded the thought of the whole thing. Well, seeing it on a search engine started the old fear right up again. Don't let it happen to you! I finally have Boolean searches down cold! And they are not even hard. Just put it down as one more thing you have to know to do a good search . . . and it's one more thing you can teach your kids. They'll thank you for it later (I bet)!

Boolean searches rely on three words called operators: *and*, *or*, *not*. That's all (actually, some of the more complex ones have *near* and *followed by*). Open Magellan at **http://www.mckinley.com/** click on the button and then click on boolean operators and you will be linked to a clean explanation of a Boolean Search. You can also go directly to **http://www.mckinley.com/cgi-bin/options.cgi#boo** and save some clicking. If you want another point of view, go to **http://webcrawler.com/WebCrawler/Help/advanced.html** which is the WebCrawler definition of a Boolean search. You will find them remarkably similar.

Operator	Example	What I'll get back	Result
AND	elementary AND reading	Web sites that include both of the words—e.g., Web sites with both elementary AND reading	AND will limit your search
OR	elementary OR reading	Web sites that include either of the words or both—e.g., sites with elementary OR those with reading OR those with both elementary and reading.	OR will limit your search
NOT	elementary NOT reading	Web sites that include the first word but not the second—e.g., sites with elementary but NOT reading.	NOT will limit your search

Boolean searches should be easy, but there is always a fly in the ointment. Some search engines, like WebCrawler, use "or" as the default operator; other search engines use "and" as the default operator. Some don't use either. Then there is just one more little problem. Not all of them use the same operators. Some use colons (:) and commas (,) where others use +, - and \. When you are not sure what operators a particular search engine uses when it is looking for information, read the opening paragraph on the home page of the search engine and look for something that suggests how you can improve your search results. Most search engines have a built-in Help! function or a FAQ section that will give you information about how to develop a "good search." If there is a help button, click on it. If the search engine uses a Boolean search pattern, follow the directions and use the correct operators for that search engine. When you know the right words to use for each search engine, you will be rewarded with better results.

Scavenger Hunt, Anyone?

You've now read just about everything I know about directories and search engines. You know that directories are categorical and search engines rely on key words. You know a little bit about Boolean searches, and you have URLs for several directories and search engines. At random, pick out a URL from the list of directories and search engines above, and see if you can find the following items. This exercise is something you might want to do with your kids, too.

The rationale for this type of lesson is simple. If you are going to be using the Internet, you need to know how to gain access to the hidden information. Just like guide words are necessary for learning how to use a dictionary, directories and search engines are necessary to learn how to find information on the Internet.

The procedure is easy. Introduce your kids to a directory and a search engine. Tell them about Boolean operators. Walk them through a couple of examples. Then give them a list of things they have to find. Evaluation is almost self-explanatory. If they find Web sites that match the hunt items, they are successful.

Now let's search out the following (answers below):

1. **What is the atomic number of uranium?**
2. **Where is Hollyhock House located?**
3. **True or False: *Robinson Crusoe* and *Alice in Wonderland* were written in the same year.**
4. **If you want to say "hello" to Chamorro folks on Guam, what word or phrase would you use?**
5. **When was Rutherford B. Hayes President of the United States?**

Answers:

1. 92—I used WebCrawler and typed in Periodic Table of Elements. See **http://www.cs.ubc.ca/elements/periodic-table**.
2. 4808 Hollywood Blvd., Los Angeles, CA—I used Yahoo, because I knew that Frank Lloyd Wright designed the house. See **http://www.westworld.com/~fohh/map.html**.
3. False—*Robinson Crusoe* was written in 1721. See **http://www.brunel.co.uk/davidw/_SIXTEEN.html#3**. *Alice in Wonderland* was written in 1865. See **http://www.germany.eu.net/books/carroll/alice.html**.
4. Hafa Adai—I used Yahoo to search for Guam, then followed the listings. See **http://www.gov.gu/index.html**.
5. 1877–1881—I cheated. I knew that the White House home page had a listing of presidents, so I went there first—**http://www.whitehouse.gov/WH/glimpse/presidents/html/rh19-plain.html**. You can also get there with Yahoo, Government, then Presidents, which will eventually lead you to **http://www.grolier.com/presidents/cards/front/19chaye.html**.

The
American Presidency

You can make a Scavenger Hunt easy or hard. You can search for answers that jump out at you or for embedded answers that your kids will have to read a bit before they know they are on the right track. You can develop hunts for people, places, and things on the Web as easily as you can develop hunts for ideas, facts, and opinions. And look at the skills your kids are using and learning. They are learning how to skim and scan a Web site for information, which reinforces their reading skills. They are learning how to sort or categorize information, use higher order thinking skills, reinforce writing and typing skills, and the list goes on. As you can see, this really is a teaching tool.

I hope you had fun learning how to search the Internet. I hate to tell you this, we have just skimmed the surface of searching the net, but this is enough for now. I really hope you develop a couple of scavenger hunts for your kids to do. If you have a super successful one, e-mail it to me and I'll include in on the Web site for this book (**http://www.csuchico.edu/educ/egcother.html**). You can always reach me at ecotton@oavax.csuchico.edu. I'm looking forward to hearing from you soon!

Chapter 5:

Developing and Designing a Web Page

You and your students can learn to write HTML (HyperText Mark-up Language) so that you can publish your own individual home pages, or even develop a Web site for your class, and your school. Yes, it's a computer language with special codes, but don't let that scare you away. It can be easy and—some would say—fun!

All you need to get started is a list of the HTML codes and any word processor or text editor. HTML uses embedded codes, tags placed inside text to mark graphical elements, hyperlinks, and typographic particulars. HTML is growing and changing. While I was writing this book, I noticed that some of the best books on HTML in the bookstores had become outdated. Teaching with the ever-expanding Web means that you have to run just to keep up!

HTML is primarily a bookend code. If you want your books to stand up on the shelf, you need a bookend at the left and right ends of the row of books. It is the same with HTML: you need a tag at the beginning and end of any string of code. Angled brackets **< >** at the beginning say, "Code starts here." Angled brackets with a forward slash **</ >** says, "Code ends here." For example, the tag **<B>** causes text to be presented in bold letters. "B" for "bold" inside the angled brackets indicate an HTML coded command: "This is a code command: Turn on B for Bold!" When you get to the end of the word or phrase that you want bold, you key in **</B>** which tells the machine: "This is a code command: Turn off B for Bold!"

HTML consists of many such tags: tags for headlines, tags for underlining, tags for italics, tags for titles, and tags for paragraph breaks, but don't be overwhelmed by all the tags! Most of the tags are alliterative, such as "B for bold" or "I for italics." After you've coded your first home page, your fingertips will have memorized most of the tags. Many browsers support tags that allow you to set up tables, customize backgrounds, and a few other nifty things. The problem with HTML is that it is too simple of a machine language, not too complex. If you're accustomed to setting type and desktop-publishing programs, you will find HTML, and its quite limited range of typographic possibilities, clunky.

One of the best ways to start setting up a home page is to consult the many online pages to learn how to create your own set of Web pages. You can also get an HTML guidebook in a bookstore or at the library. Listed below are a few beginning HTML sites you might want to visit.

HTML Guide by Dr. Clue (When you get to this page, click on HTML 101)	**http://www.cnw.com/~drclue/Formula_One.cgi/HTML/HTML.html**
A List of HTML Tags	**http://www.cosy.sbg.ac.at/~lendl/tags.html**
123...Easy	**http://spring-board.com/123easy/map.html**
HTML Tutorial–An Overview	**http://www-pcd.stanford.edu/mogens/intro/tutorial.html**
The BareBones Guide to HTML	**http://werbach.com/barebones/**
Do It Yourself HTML (Down and Dirty Handbook)	**http://metro.turnpike.net/D/DanMM/howhtm1.htm**
The Web Designer (a directory of links to every aspect of HTML and Web design)	**http://web.canlink.com/webdesign/**
Creating Net Sites	**http://home.netscape.com/assist/net_sites/index.html**

One feature you'll be using is the HTML hyperlink. When you are developing your own Web site, you will want to list URLs of all sorts of Web sites which you can move to in a flash by clicking on a hypertext link on your Web page. Here's an example of HTML that puts a link in place for users to click on: **<A HREF=http://home.netscape.com/index.html>**Home**</A>**. Now let me interpret this for you. The first thing you spot is the angled bracket **<** at the beginning that announces the start of an HTML coded command that is embedded in the text. Look at the end of the string and you see the other half of the pair of angled brackets with the forward slash **</A>**, indicating the end thereof. "A" is for "anchor," HREF stands for hypertext link or hyperlink for short, and **=** means "equal." It's an anchor because you're going to fix something here—like anchoring a boat, and the **=** sign tells you what is being anchored. The part of the tag that follows the **=** (**http:** . . . **.html**) is the URL of the Web page to which your readers will go if you click on that link. The text following the URL contains the highlighted text **>**Home**<** that the user sees on screen.

The code to insert images in your pages is similar to the code that commands a link to be inserted. Online images are links to image files, so instead of inserting a document that has ".html" at the end of the URL, it will have the abbreviation for the type of graphics file it is. Some of these abbreviations are ".gif," ".jpeg," or ".mpeg." Most computers will have image reading programs that support the types of image files mentioned above. So, if you are going to put in an image, you will write the following tag: **<A HREF=http://egc.gif>Picture of Eileen/</A>**. Can you decode that tag?

<A	The opening anchor
HREF=	a hypertext link
http://egc.gif	URL of the graphics file
>	end of the opening anchor
Picture of Eileen	underlined hypertext link the browser screen will show
</A>	ending anchor

If you got all of that, you are on your way to becoming an HTML programmer! Congratulations.

To see the HTML source code that controls anyone's Web page, just choose View then Document Source from the pull-down menus. In the PC environment you will immediately see both the tags and text that were used to make that Web page look as it does. In the Mac environment, your browser may launch an external program to show you the codes. If you have already coded a home page, the tags and text you see will have meaning to you; if you have only looked at browser screens and never delved any deeper into the medium, reading tags is like reading a foreign language. Don't let the techie jargon scare you into thinking that you cannot design and develop your own home page! If you have surfed the Web only a little bit—especially in regions where educators roam—you will probably have seen home pages written by five-year-olds, and you will certainly have seen home pages put up on the Web by elementary-school kids. If kids can do it, you can do it! You do not need to be a computer programmer to develop a home page; you need only to know what you want your home page to say, time to hunt and peck, and patience.

This chapter tells you everything you need to make an adequate start. And if you get stuck, have the kids in your class help you out. If you are completely baffled, there is even a Web site on the Internet that will put your information in code for you. It will take a couple of days for you to get the return copy, but if you are interested, see **http://www.wizard.com/~fifi/pagemake.html**.

The Home Page Maker

How to Build Your Own Home Page

Goal

To design, code, and upload a home page with your students for your class.

Rationale

You want the world (wide web) to know what you are doing. A home page is your window to the world: your class looks out, and the world looks in. You also want to reinforce skills in reading, writing, drawing, proofreading, and collaborating, and instruct in the new skill of programming.

Objectives

Compose a message on your home page that is meaningful. It represents your class to people who will meet you through the Internet. Develop expertise in collecting, organizing, and writing data both textual and graphical; in using HTML; and in producing and maintaining a home page with selected links. Devise strategies for working together.

Procedures

Designing your own home page is an excellent project for your class (or school) after everyone interested has been online for a while. When your students know a little about surfing and the types of information on the Web, they will probably have ideas for their own home page(s). Set the stage by telling your class that they can develop a short home page and put in on Classroom Connect's server, but that to do this, Classroom Connect requires that they have a clear message and a reasonable reason for using the space—the more focused, the better and the more imaginative, the better. The focus of Classroom Connect is to help teachers harness the power of the Internet, so they provide many services for teachers. Check out their Web site at **http://www.classroom.net/** for more information.

At this point, brainstorm with your students to come up with the best reason for having a home page and a message for your class. One fourth-grade class has an interactive creative writing project through which they are communicating with people all over the world. Another class is doing a global weather survey. Yet another is communicating the results of a scientific experiment that is being done in several classrooms across the United States, the United Kingdom, and New Zealand. Only the scope of your imagination and your students' imaginations constrains the boundaries of your possibilities.

Spark your students to find several good examples of home pages written by classes that are similar to yours in terms of grade level or subject, and see what your electronic neighbors have been doing. Talk over together what makes an excellent home page, a so-so home page, and a not-so-good home page. Look for home pages that are elegant yet simple, that show a range of information links from simple to complex, and that have a clear and appealing purpose and message.

Brainstorm with your class what they would like to see on their own home page. Revisit the issue of what your class's reason for having a home page and message ought to be. Generate a list of ideas for contents. Here's a starter list:

- student stories
- interactive stories (stories written online in concert with other kids in other places)
- your class or school newspaper (you may want to include the class news digest that you are developing according to Chapter 10)
- pictures drawn by students
- collaborative projects with other classes at your school or with other schools
- a list of your e-mail addresses and an invitation to keypals
- biographical sketches of the people in your class
- favorite areas of study and hobbies with individual comments and questions
- science projects
- information and news about where you live and maybe a virtual tour about the notable and scenic spots in your locality (like the one suggested in Chapter 12)
- pictures of everything you talk about
- audio clips and video footage (if you have the technical capacity)
- and oh! so much more

When you publish your own and your students' e-mail addresses to the world, realize that you are inviting yourself to be flooded with messages. Make sure that you are prepared for the traffic. If you are ambitious, lead your class to become the force that organizes a home page for your entire school. (In that case, your class home page will be a link on the school Web site.) To involve other classes and even the principal means that your class will have to accept the responsibility of teaching other people about the Internet. Think about the implications of this undertaking and talk it over thoroughly with all the major players. This can be a big project.

After the brainstorming, it's time to set priorities and develop an outline of your proposed home page before you start writing, and long before you start coding it. Without this outline, you may lose direction and focus, and end with a hodge-podge page that visitors will visit once but never again. Remind everyone that the page is going to be on the World Wide Web. This means that it will be viewed and read by possibly thousands of people all over the world who will build their only impression of you and your interests by reading your class home page. Posting a home page via the Web to the world is awesome. Your kids will agree. But it is a responsibility not to be taken lightly.

Display the outline on a bulletin board in your room. On this display, establish a schedule of deadlines: dates by which text has to be completed, when links have to be identified and coded, when the home page will have its test run, when it will be reviewed and modified, and when links have to be updated or maintained.

Assign different parts of the project to different groups of students according to their stated interests. Allow everyone to work with as many different parts of the project—organization, text, coding, graphics, proofing, etc.—as they like, so that they can exercise their talents and skills and take ownership of the finished product. Here's a check list of some of the groups you'll probably need:

- project coordinator (to help you keep up with everybody else)
- information and image gatherers

- copywriters
- coders
- editors
- proofreaders
- maintenance staff
- page designers and layout artists
- artists and graphic designers
- reporters (to get stories from other classes, the principal, parents)
- Webmaster(s)

You will need a group to talk with the people in charge of your intended server, whether your own school's systems technicians, a private server, a near-by university, a regional freenet, or some other onzramp to the Information Superhighway. The job of this group is to establish your right to upload and the protocol for uploading your home page on their server.

The group that maintains the computer files during the building process exercises critical hands-on responsibility. Not only must they manage the files of the various elements of your home page but also they need to keep a detailed list of all the files, with complete reference to titles and what each title means. This is work for your detail-minded students. For example, on the first Web site I created, there were 105 separate files, each one with a different name. To remember what the files names represent, I have a master list of the file names and what is in the file. Sure, I can look in the file to determine what is in it, but a hard copy list is easier for me to refer to. Because I share Webmaster duties with another faculty member, we would be working at cross-purposes if we did not have our master list of files. In addition, home pages have to be maintained and updated, and it is difficult to remember what 105 obscure abbreviations mean, six months after they have been written, especially if they have been created by a number of students.

While your students are engaged in all these many activities, even if these kids are mature and responsible, you yourself will need eight arms and about the same number of eyes to keep up with all the groups and keep them focused on their tasks. Needless to say, no matter how young or old your students are, or how responsible and mature, you are the Ultimate Webmaster and the buck stops with you.

After the home page is up and running, it will need a hands-on Webmaster, an individual who is responsible in every way for every aspect of an active home page. That person will assuredly and ultimately, I repeat, be you yourself. It would, however, be good developmental instruction for the students to choose the right person from their midst to be the student Webmaster of public record, your associate in this responsibility. Your Webmaster can have as many assistant Webmasters as seems desirable. I suggest rotating the job of Webmaster among the students who are competent to do the work; that way, more people can learn from the experience.

Your students need to know that the class home page is not a passing fad but a high-stakes project that they are going to stick with through the entire year. I suggest, if possible, that you put a counter on your home page that keeps a record of "hits"—it tabulates how many times your home page has been visited. Seeing those hits accumulate will help to maintain interest on the part of your students. If you get hits enough to prove to a client that your Web site gets a lot of traffic, you might even sell advertising space on your home page.

Another good way to maintain class interest is to program e-mail addresses into your home page, so that visitors can write to all of you. The address of the Webmaster needs to be there, of course, and don't forget to put student addresses on a file that links to your home page. Every student in your class ought to have his or her own e-mail address, and it ought to link to your Web site. When our children are born, we take out Social Security numbers for them; now, when they come of age to be "netizens" of the WWW, they get e-mail addresses.

Technical Production of Your Home Page

After the home page copy has been composed, and the pictures and other information are gathered and organized, the home page needs to be formatted to be readable by a browser. You will need to teach your students how to put pictures in a correct format for uploading, how to write text files using the word processor, and how to code in HTML. None of this is as difficult as it may sound; the processes are simple ones. The kids who do this work, however, need to be the ones who take instruction well, who have an eye for detail, and who can follow directions.

If you are using a word processing program such as Word or WordPerfect, click on "Save As" every time you want to save a document for uploading to your home page. Because the "Save As" function enables you to save files in a variety of formats, choose "text" and then click on OK; your document is thereby saved as a machine-readable text file. Should you happen to forget and not save a document as a text file, it cannot be read on the Web. In addition, your browser will *not* be able to read any text file unless its name ends with the suffix .html (for Macintosh users) or .htm (for PC users). Therefore, a typical text file name might be "egc.html" and "egc.gif" might be a typical image file name. The suffix ".html" has the function of telling the browser that the file is written in mark up language while the suffix ".gif" tells the browser that the file contains an image. The newest versions of some word processing programs now allow you to "Save As" an HTML file. This is a real time saver.

After a document has been word-processed and saved as a text file, put your proofreaders to work. Have them check for errors in content as well as spelling and grammar errors. You may want to have two groups of proofreaders, one for content and organization, another for spelling and grammar. When they have finished proofing a file, make sure that it is saved as a text file once again. You can change text in a document after it has been marked up. But it is much easier to make changes while the document is still a simple word-processing file, before it has been coded.

Your artists and coders need to work closely together. The artists help to design the page, while the coding crew puts in the tags to the text files. You will need to show your artists how to make image files using "gif," "jpeg," or "mpeg" format.

Your coders will need to learn how to code in HyperText Mark-up Language. Several HTML primers are available, and most of them are easy to understand. At the beginning of the chapter, eight HTML guides were listed. I've found quite a few other good HTML guides on the net, so I list a few more below.

Beginner's Guide to HTML	**http://www.ncsa.uiuc.edu/General/Internet/WWW/HTMLPrimer.html**
Beginner's Guide to URLs	**http://www.ncsa.uiuc.edu/demoweb/url-primer.html**
Crash Course on HTML	**http://www.pcweek.com/eamonn/crash_course.html**
GNN Select Internet: HTML	**http://gnn.com/gnn/wic/wics/internet.html.html**
Guide to HTML Commands	**http://www.woodhill.co.uk/html/html.htm**
HTML Quick Reference	**http://www.cc.ukans.edu/info/HTML_quick.html**
HTML: Working & Background	**http://www.w3.org/pub/WWW/MarkUp/MarkUp.html**
Learning About HTML	**http://www.indiana.edu/ip/ip_support/learn_html.html**
Project Cool Basic HTML	**http://www.projectcool.com/developer/framed-index.html**

Choose the guide that is best for your coders and for yourself. If you do have a good group of direction-followers who can read documents, make sense of them, and put the directions to use, they should be able to work with any of the above documents on HTML. HTML is not a difficult language or code to learn, but you need to learn it so that you can talk with your HTML class experts. You cannot leave this task to your coders alone; they will need your assistance, especially the first time they start to code. In just a bit I will offer a few basics on HTML, to get you started. To become good at it, however, you need to consult the sources above.

When you are finished putting in all the tags, it's time to put the page through a trial run in your browser program. In Netscape you do this by going to the Open New File in the file pull-down menu. A window will appear asking where the new file is found. You locate that file, click on add, then done, then OK. Soon the Netscape screen will show off the document. If it has been coded correctly, it should look just as you want it to look. If it does not look that way, then you identify the errors and go back to the drawing board. Sometimes you will have to make many small changes in order for a file to look as you think it should look. (I've made about two perfect files in all the time I've been doing HTML—it's harder to get them perfect the first time around than you think.)

Home pages require a lot of feeding, watering, and tending; therefore, your maintenance group, including your Webmaster(s), will become more important over the long term. There are times when you do not have the time to do the needed maintenance on your home page. When, however, the information on a home page becomes dated and incorrect, you are definitely no longer putting your best foot forward! Look at the bottom of many Web sites and you will probably see a date. This date tells you the last time the page was updated. This is important if you are trying to get the most recent information. If you have date-sensitive information or links on your home page, you will feel the need for timely maintenance even more—possibly on a weekly or even daily basis. (I'm not exaggerating! Some Web sites are updated every day. My home page gets updated once a semester.) If, for example, your home page talks about a big event that's going to happen in the spring, and now it's already late summer and heading into fall, it's past time for some home page maintenance.

Evaluation

The finished home page with an address on the Web is but one piece of evidence that the project was successful, the public component. Less obvious, but more important, are the skills that have been communicated and practiced: group participation, cooperation, and collaboration; reading, writing, drawing, layout design, proofreading, spelling and coding skills; the ability to follow directions; the honing of attention to detail; and the individual personal responsibility required to achieve presentable work for public display. Your class will have met a full spectrum of opportunities to learn in every aspect of the curriculum. Putting a home page up on the Web gives new meaning to the phrase "across the curriculum."

HTML Basics

At the beginning of this chapter you saw some HTML coding—the A for anchor, **<>**, the /, and **HREF=**. There are several more and most of them are alliterative in nature, i.e., "HR" stands for horizontal rule. Users do not see any of these codes or tags when viewing your home page—unless they ask the browser to reveal the source code.

The page or document you want to code has four sections: Document Type, Header, Title, and Body. The document type is **<HTML>** and is placed at the beginning of the document or file. When you are finished with the document or file, you write **</HTML>**.

The title is the name of the document as it is going to show up on the browser window. It is written **<TITLE>** and at the end of the title, **</TITLE>**. The header **<HEAD>** is where the title is placed, and it ends with **</HEAD>**. Lastly comes the Body of the file or document, the bulk of the page. It is coded **<BODY>** and **</BODY>**.

Explanation	**Code**	**Where to put it**
Document Type	**<HTML> </HTML>**	beginning and end of file
Header	**<HEAD> </HEAD>**	descriptive information such as the title
Title	**<TITLE> </TITLE>**	must be between <HEAD> and </HEAD>
Body	**<BODY> </BODY>**	the majority of the document or file

Here's an example:

```
<HTML>
<HEAD>HEADER
 <TITLE>What's It All About, Anyway?</TITLE>
</HEAD>

<BODY>BODY
</BODY>
</HTML>
```

HTML is not case sensitive. You may use uppercase letters, or lowercase letters, when you are composing tags (although I suggest being consistent). What you must not do is forget the **<>** or / marks. If even one **>** mark is left off, the tag will not be read correctly, and the document will not appear as you want it to appear. Watching for paired sets of bookends is one way that your proofreaders will prove their diligence.

Sample HTML

The phrase "The Information Superhighway" is coded several different ways below. Look at the tags, and see how the print changes.

Command	**Coding**	**Result**
Bold	**<B>**The Information Superhighway**</B>**	**The Information Superhighway**
Italics:	**<I>**The Information Superhighway**</I>**	*The Information Superhighway*
Bold, Italics (together)	**<I><B>**The Information Superhighway**</B></I>**	***The Information Superhighway***
Centered	**<CENTER>**The Information Superhighway**</CENTER>**	The Information Superhighway

If you get the general idea, then you are ready for some more complicated coding. Use **<BR>** (line break) at the end of a line when you want a single carriage return. Use **<P>** when you want a double carriage return at the end of a paragraph and use **<HR>** to put in a horizontal rule or line across a document. These three tags or codes do not need the **</>** tag or the other bookend.

Here are some examples.

Code	What You Write	What You See on Netscape
Line break or single carriage return	She likes to sing.**<BR>** He likes to dance.**<BR>**	She likes to sing. He likes to dance.
Double carriage return or paragraph	She likes to sing.**<P>** He likes to dance.**<P>**	She likes to sing. He likes to dance.
Horizontal Rule	**<HR>**	———————————

To make lists, use either **<UL></UL>** (unordered list) or **<OL></OL>** (ordered list) tags along with **<LI>** (bullet) tag. An unordered list is not numbered, where an ordered list is numbered 1, 2, 3, etc. Here's an example using the **<HR>**, **<BR>**, **<UL>** and **<P>** tags:

HTML Code

```
<HR><P>
We saw these animals:
<UL>
<LI>goats
<LI>pigs
<LI>cows
</UL><P>
<HR>
```

What appears on the browser window

———————————

We saw these animals:

- goats
- pigs
- cows

———————————

Here's the same example using a numbered list:

HTML Code

```
<HR><P>

We saw these animals:
<OL>
<LI>goats
<LI>pigs
<LI>cows
</OL><P>
<HR>
```

What appears on the browser window

We saw these animals:

1. goats
2. pigs
3. cows

There's more. You want to connect your page to other pages, so you need to create hypertext links. Those are the underlines you see on Web pages that allow you bounce from one page to another. There is a specific protocol for them. Remember reading this at the beginning of the chapter? Every time you want to create a link, you must anchor it in the main body of the text. Since "anchor" starts with "**A**" the tag starts out with an "**<A**". Next, after one space, you indicate a hyper reference with the code **HREF**. Finally, you want to refer to the Web site you wish to link to. All Web sites have addresses or URLs, so you type in the URL. Here is a sample that will take a visitor to the Smithsonian Institution.

```
<A HREF=http://www.si.edu/resource/start.htm>The Smithsonian Institution</A>
```

If you type this in an HTML document, it will look something like the following:

The Smithsonian Institution

and, if it was coded correctly, by clicking on the underlined phrase, your visitor will be viewing one of the Web pages for the Smithsonian Institution in Washington, D.C.

The code is easy to remember. It starts with

<A (for anchor)

<A HREF= (hypertext link to another URL)

<A HREF=http://address of document
(put in the URL for the new document)

<A HREF=http://address of document> (end of tag)

<A HREF=http://address of document>Wonderful Document
(title of the URL)

<A HREF=http://address of document>Wonderful Document< /A>
(ending anchor tag)

The type sizes and fonts are quite limited in HTML, so you'll have to be clever in their use to give your home page its own special look. The six type sizes available for headings and sub-heads in HTML range from <**H1**>, the largest, to <**H6**>, the smallest:

HTML Code	What appears on the browser window
<H1>MAIN TITLE**</H1>**	MAIN TITLE
<H2>SMALL TITLE**</H2>**	SMALL TITLE
<H3>SUB-HEAD**</H3>**	SUB-HEAD
<H4>SUB-SUB-HEAD**</H4>**	SUB-SUB-HEAD
<H5>SUB-SUB-SUB-HEAD**</H5>**	SUB-SUB-SUB-SUB-HEAD
<H6>THE SMALL PRINT**</H6>**	THE SMALL PRINT

Be forewarned that some browsers cannot read **H5** or **H6** because they are too small. Netscape, however, can read these tags.

As a helper, keep this reference chart handy.

Style	**Mnemonic**	**Code**
Bold	Bold	**<B></B>**
Italics	Italics	**<I></I>**
Large Print	1	**<H1></H1>**
Small Print	6	**<H6></H6>**
other print sizes	2 (larger than 3)	**<H2></H2>**
	3	**<H3></H3>**
	4	**<H4></H4>**
	5 (larger than 6)	**<H5></H5>**
Center	Center	**<CENTER></CENTER>**
Unordered list	list without numbers	**<UL> </UL>** (**<LI>** needed in front of each item)
Ordered list	list with numbers	**<OL> </OL>** (**<LI>** needed in front each item)

HTML can be fun, but there are other options besides brute force coding. You can "borrow" code from Web sites; you can use an HTML generator that can be downloaded from the Internet, or you could buy an HTML generator such as PageMill. The HTML generators will automatically put in the tags where they are needed. The earlier programs were bulky, but newer programs, like PageMill, are not difficult to use. In addition, some of the newer word processing programs have HTML generators too. If you would like to download some HTML programs, visit some of the following Web sites.

HTML Writer—How to Get a Copy (Mac or Windows)	**http://lal.cs.byu.edu/people/nosack/get_copy.html**
HTML Assistant	**http://www.w3.org/pub/WWW/Tools/html-assistant.html**
HoTMetaL for free	**http://www.sq.com/products/hotmetal/hm-ftp.htm**
HTML Editor (for Mac)	**http://www.w3.org/pub/WWW/Tools/HTML editor.html**

WWW HTML and Tools (this is a directory of many Web sites)	**http://www.w3.org/pub/WWW/Tools/Authoring Overview.html#he1**
Yahoo List of HTML Converters, both Shareware and Freeware (this is a long directory)	**http://www.yahoo.com/Computers_and_Internet/Internet/World_Wide_Web/HTML_Converters/Shareware_Freeware/**

Lastly, I recommend that you check out the following site for more information in case you feel you need it: HTML Developer's JumpStation on the Web—**http://oneworld.wa.com/htmldev/devpage/dev-page.html**. I already listed HTML Quick Reference Guide earlier, but it is a good one. Check it out at **http://www.cc.ukans.edu/info/HTML_quick.html**. These well-organized Web sites are collections of tools, guides, articles, and techniques used on the Web.

Borrowing Code

Just a few sentences ago (as well as at the beginning of the chapter), I mentioned that there are several ways to "get" code. One of the easiest ways to see how a Web page looks in HTML is to reveal it in HTML source code. Remember the View/Document Source in the pull-down menu I talked about earlier. Now that you have some background with what HTML looks like, this direction might make more sense now. Study the codes that are embedded in the text to see how they make a Web page look. A few simple Web sites are listed below. Check them out to get a first-hand look at HTML. If you see something that you like, copy it and use that idea on your home page. (I did a lot of this for the first few files I developed.)

The Theory of Multiple Intelligences

http://k12.cnidr.org:90/edref.mi.intro.html

BCK2SKOL

http://web.csd.sc.edu/bck2skol/fall/fall.html

A very simple Web site I designed for a presentation about Newspapers

http://www.csuchico.edu/educ/fun.html

Your home page can be simple or sophisticated. Start with easy stuff, and then as you and your class build confidence and skill, blast off from there. It may seem slow at first, but the use of a new ability is always tedious at the beginning. Don't be afraid to try new things—no point in being boring! By the way, I learned HTML and developed the Web site for my department in three weeks. It is possible!

How to Publish Your Own Home Page

To publish pages on the Internet, you will submit your pages to a server computer using server software. The first thing to do is find out who is willing to publish your home page. If you are part of a freenet or school system that has home page space available, find out their requirements and start coding away. You can also have two home pages published free by Classroom Connect. See **http://www.classroom.net/** for more information about this.

You can search the Web using the command "free web space" to find other places that will publish your Web page for free (or at least inexpensively). I just did a search with MetaCrawler and came back with twenty-eight hits. There is a lot of Web space, so there is no excuse not to publish your page.

Things You Don't Want to Do

I would be remiss if I did not mention some of my pet peeves about home page construction. I'm sure you have seen Web pages that are just too busy, have a background color that looks terrible, or have just too much stuff on them. Think about those things that really bother you when you visit a Web site, and try not to make those mistakes. Here are few of the design problems that really bother me.

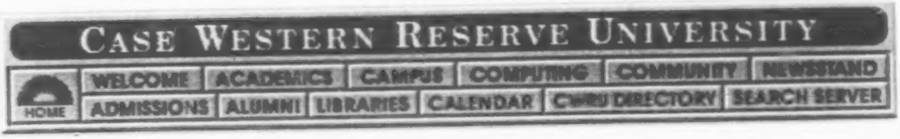
1. **Frames.** Netscape now supports frames (and I wish it didn't). They look interesting, but if you want to copy or print anything from a page that is "framed" you can't. You can't bookmark these pages, nor can you use the "back" command on many of them. (See Chapter 6.)

2. **Scrolling Texts, Marquees, and Constantly Running Animations.** I find these pages very distracting. A Web site with moving images on it makes me want to click to another site fast. I use the Web to find information, not to see Times Square.
3. **Complex URLs.** You know what I mean . . . the URLs that seem to go on forever and ever. As you know, URLs have to be typed perfectly, so the chances of making a typo are greater with a long or complex list of meaningless letters than with a short list of sensible abbreviations. Try to use short names with all lower-case characters and no special characters such as # or $.
4. **Really Long Download Times.** Sites that have lots of graphics or exceptionally large audio/video files take too long to download, especially in a school setting. If it takes too long to get the information, my students become bored. You don't need that!
5. **Outdated Information.** Web sites that are not updated regularly disappoint visitors—who are then less likely to return to them.
6. **Long Scrolling Pages.** Somewhere I read that only 10% of all users scroll beyond the information that is visible on the screen when the page comes up. That's why I like critical content and navigation options on the top part of the page.
7. **Blinking Pages.** Last, but not least, I cannot stand pages that blink at me. At first I thought they were fun, and I made a few. But as I see more of them out there on the Web, I'm sorry I ever liked them at all. I find them annoying, especially if I'm trying to read something near the blinking. Blinks would be OK if you could turn them off!

Test Your Skills

To test your mastery of HTML, you can take the tutorial developed by Eric Meyer at Case Western Reserve University. Turn on your browser and Open **http://www.cwru.edu/help/introHTML/toc.html**. (By the way, I've been talking with Eric via e-mail, and he would like your comments. So when you are done with the tutorial, give him your feedback. He will appreciate it.)

I hope you have enjoyed learning HTML. Whether or not you get your class home page up and running, send me some e-mail about what you are doing with the Internet. You can reach me at **ecotton@oavax.csuchico.edu**. Tell me about your class, and what they have been doing with the Internet. I'll write back! See you on the Web!


CASE WESTERN RESERVE UNIVERSITY
HOME
WELCOME
ACADEMICS
CAMPUS
COMPUTING
COMMUNITY
NEWSSTAND
ADMISSIONS
ALUMNI
LIBRARIES
CALENDAR
CWRU DIRECTORY
SEARCH SERVER

Chapter 6:
Advanced Web

The title for this chapter sounds like we're all going to learn how to become better spiders, and maybe that is what it is all about. What makes it "advanced" are the enhancements that are being developed to make Web walking easier, more colorful, more musical, more interactive than before. I'm only going to tell you about some of the advancements because there are so many and because they frequently require complex explanations that you can better find on the Web (if for no other reason than they are changing all the time). You are going to learn more HTML (colors, backgrounds, and tables). You will also take part in a discussion on multimedia and the Internet in which I'll describe audio, video, chat, VRML, Java, and the generic host of plug ins. All of these are part of the future of the Web. Multimedia and plug ins are in their infancy (debugging is happening all the time). Keep an eye on this aspect of the Internet, as this is where the action is now.

Web Site Design

So, you're ready to add a little life to your Web sites. I'm sure you've seen Web sites that are an ugly color or have a busy background? And you are wondering, "why would anybody do that to their Web site?" I've wondered the same thing, and like my mother used to say, "Beauty is in the eye of the beholder." What is beautiful to you, is not always beautiful to someone else. (Also realize there is the possibility that the background may look great on their computer with their browser.)

A good Web site has a home page (the first page) with all the important information visible in the first screen without any scrolling. When you open a home page and see nothing and you have to wait for a graphic to appear, you are probably going to open another site as soon as possible.

A good Web site should not be too busy. Remember when friends got their first computers that used different fonts? You probably got letters from them that were written in seventeen different fonts, because it was kind of fun for the writer to use them. After awhile, the fun wore off, and they wrote the letters in one font. The same is true for Web sites . . . don't go overboard. While variety might be the spice of life, it can be distracting and is another way to encourage people to not visit your Web site. After all, if you are creating an information bank for your students, you want them to visit your Web site, stay there, learn something, then come back again and again.

Look at some commercial Web sites. See what they have done regarding color, font, and logo and take your cue from them. Usually, their logo is brief, the colors are attractive but not offensive, and you get to the meat of the document quickly on the first screen. If you have a logo, don't make it so big that it takes up a whole screen. That means two things: a long download time (which is boring) and the logo is taking up valuable space on that home page that can be used for information. You want to design your document with these simple rules in mind.

Organizing your information so it is easy to retrieve is an important element of Web design. That means tables and frames. There are lots of good Web sites "out there" that tell you how to add them to your site. Reading some of these directions is like wading through molasses. Like many Internet dilemmas, I let my students show me how to work with them first, then I follow their lead. The kids have the time to play with different Web sites and tags, and they "get it" better than us oldsters can. My first rule of thumb is to look at what is out there. If I see a table I like, I look at the source code and copy away! I put in my material and it usually works. After I've done that for a couple of pages, I begin to see the logic of the tags and I can figure it out from there.

If you are interested in working with tables and frames, here are a few sites that will be of use. The Down and Dirty Handbook of HTML at **http://metro.turnpike.net/D/DanMM/howhtm1.htm** gives some good ideas about tables and frames. The Web Designer at **http://web.canlink.com/webdesign/** gives lots of user friendly comments about design, tables, frames, animated graphics, and the like. It's a good place to look at if you want to become a proficient coder. Also, check out Project Cool at **http://www.projectcool.com/developer/framed-index.html** to get some ideas about tables, frames, and other interesting design options.

THE WEB
DESIGNER

I like tables. They help organize information in a linear fashion. If you don't think in a linear fashion, stay away from tables. Frames, which are not available on all browsers, are another issue. If you are using Netscape or another "frames ready" browser you can at first grasp the organizational scheme, then the problem, of frames. They divide the screen into two or more screens, each independent of the other, so you can have two "things" happening on your Web page at the same time. This is kind of cool. However, if you want to click back to an item on a previous framed page, you cannot. Instead, your browser will put you back to the last Web site you visited. If you design a page with frames, you disable the "back" button on your readers' browsers. Is that something you want to do?

Another little touch many people like to add to their Web sites is a counter. You know, the little set of numbers that say how many times people visit your Web site? They are a double-edged sword! What happens if your class builds the quintessential Web site with a counter and no one shows up to visit? Is it your job to access that site a hundred times just to make your kids feel better? But good publicity, (and there's lots of ways to publicize your site) will probably get you a few hits.

While we are in the area of making the Web site more attractive, don't forget *color*. You can add backgrounds that are plain or have texture. You can change the color of your leading links and your followed links as well as the color of the font (but realize that some browsers will then make the text nearly illegible if you do this). To see how to add more color to your Web site, look at this list of URLs. Every one of them is easy to understand.

The Style Guide to HTML at **http://www.w3.org/pub/WWW/Provider/Style/Overview.html**.

123...Easy!
MAP

Check out the background and graphics links that Easy, 1, 2, 3, has at **http://spring-board.com/123easy/map.html**.

Creating Basic Web Pages at **http://www.dcn.davis.ca.us/~csandvig/lp/pccourse.html** is another good place to look for color, graphics, and backgrounds.

You can also search the Web for sites by asking for "HTML backgrounds." You will be surprised at all the hits that are returned.

Now the Real Bells, Whistles, and Third Dimension, Too!

In the last six months, the Web has taken on a new dimension—that of multimedia. One aspect of multimedia consists of the "plug ins" (as they are called) that make a plain Web site explode with sound, color, added dimension, or all three.

Right now, most multimedia is not aimed at the education market, so it's difficult to find Web sites that use multimedia that have what I call a "curricular" value. Given that, the Web sites that are multimedia, do have *splash!*

To find out more than you ever wanted to know about multimediated Websites, check out BrowserWatch Plug in Plaza at **http://browserwatch.iworld.com/plug-in.html**, which not only lists the plug ins you might want to add to your browser, it also has sample pages that showcase the plug in. Scroll on down this page and you can see the *whole* list (which they warn you is huge) or you can go directly to the platform of your choice.

A Web site that has Shockwave (the latest multimedia effect on the Web) installed is Planet Hawaii at **http://planet-hawaii.com/production/shock/ph/**. Just the first page is "shocked," but you get a good idea of what this plug in can do. It takes over two minutes for a 14.4 modem to download the sound and animation for this page, and it takes less than thirty seconds for the effect to play itself out.

Virtual Reality (VRML) is another plug in. It gives your screen an arcade game appearance with three-dimensional depth and animated graphics. One of the best Web sites to look at for Virtual Reality in action is "Stonehenge." If you want to see Stonehenge, you must have a fast Windows-based computer (a 120 megahertz Pentium is recommended) as the Web site is designed for Windows 3.x or Win-95. Us Macintosh users are left in the dust . . . but you can get an idea what the site is about if you have the VRML plug in installed. To see Stonehenge, open **http://www.intel.com** or **http://www.superscape.com**. This Web site is phenomenal but it took me twelve minutes to download with my 14.4 modem. All the while I was thinking, what are my kids going to do if they have to wait this long. According to the creators of this Web site, you are presented with a view of Stonehenge, at dawn on the day of the Summer Solstice. You see the sun rising slowly above the circle of stones. You can walk around the huge liths, experience the past, and glimpse into the future. It is completely interactive, and even for Mac-users, interesting. I still wonder about the long download time and my kids.

For those of us who are still bewildered by plug ins and what they mean, you can get even more bewildered by Falken's Maze. This Web site tries to organize all the plug ins out there and tell you what they do. Open **http://cybertools.thru.net/tools.shtml** to find out what it's all about. GNN Select has a write up on plug ins, too, at **http://gnn.com/gnn/wic/wics/internet.browsers.html.** It tends to be written in an English I can understand some of the time. At the Mac Plug in Center you can find out information about the different plug ins that are avail-

FALKEN'S CYBERSPACE TOOLS

able, and you can download the plug ins you want. Open **http://wso.williams.edu/~jsolomon/plugins.html** to find out what this Web site has to say. A similar page for PC folks is Browserwatch at **http://browserwatch.iworld.com/**. My university also has a site on plug ins that I found useful probably because I know the people who wrote the site, and, if I need help, I can ask them directly. Whatever the case, see what California State University, Chico has to say about plug ins by opening **http://www.csuchico.edu/computing/INTERNET/helpers.html**. If you want even more information on plug ins do a search in MetaCrawler. In the query box type "plug ins" and you will be surprised at how many links are returned.

The next step is putting or "embedding" plug ins into your Web site. That is an art unto and of itself, and one I have not yet mastered. I'm still reading information on how to do this. Check out **http://www.liveupdate.com/embed.html** to learn how to write the scripts needed for plug ins to work. This is definitely in the realm of advanced Web design, and I'm not there yet. My kids probably are!

Chat

Chat has been around for a while in the form of Internet Relay Chats or IRC. I believe they have now come of age. There are many Web sites now that offer "chat lines for teachers" and "chat lines for students." Last year, that was not the case.

I like Chat! I think this is a welcome addition to the Internet. It makes the 'net more interactive, more real, more now oriented. With Chat I can talk to folks in real time, unlike the talking I do when using an e-mail program.

The other day, I had a Chat with four other people. We were all talking about this book, getting some of the essentials squared away. I could chat with the publisher, the editor, the designer, and the programmer about *The Online Classroom: Version 2.0*. Not only was it fun, we were able to answer some questions that had been eluding us. I have also used this same function to talk over articles with three of my colleagues from three different institutions. Since all of us teach at different universities across the U.S., the phone bill would have been prohibitive for the hour that we were on the line. To make matters even better, at the end, we all had a script of what we said that we could refer to for future guidance and clarity. That is not possible with a telephone conversation.

There are several Chat plug ins available. Right now I am using Global Chat for my Internet class. You can find out more information about it at **http://arachnid.qdeck.com/chat/schedule.html**, and download a free copy of the program.

GLOBAL CHAT

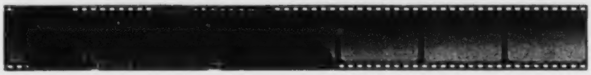
Chat lines, in their various forms have great potential in a classroom. Look into MUDs (Multi-User Dungeons) and MOOs (Multi-User Dungeon, Object Oriented) as well as IRCs and the other Chat lines that are out there. With a chat line you can talk to folks, real time, about a particular issue, or about a project. You can exchange ideas quickly as well as get your own point of view across to others. I've read of an astronaut giving a first-person account of a Space Shuttle flight to a group of folks in a classroom hundreds of miles away. Can you imagine what it feels like to "talk" to an astronaut, ask him or her questions, and then get the responses from space? What a powerful tool!

As the technology matures, Chat programs will become better forums for the exchange of ideas. Already, Quarterdeck, the developer of Global Chat, has created an Internet counterpart to a live long distance telephone call. With the correct software and a microphone, you can actually talk to someone else (who also has the software and a microphone) over the Internet. This can be a "long distance" telephone conversation, for the price of the local dial-up phone call to the Internet provider. I wonder how long the various telephone companies are going to let this type of communication happen?

There is a problem however. Don't confuse Chat with Chat lines and IRC. Chat is an organized discussion about a specific topic. IRCs or Internet Relay Chats or Chat lines seem to be "meet" markets where there may be questionable language and conversation among the participants. Don't prejudge IRCs as all negative. Some interesting and educational forums have also taken place using IRC.

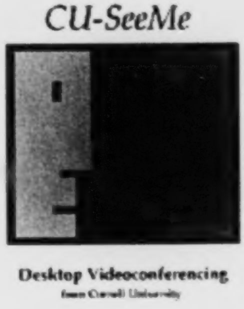
Video and CU-SEE ME

The Internet is not just static pictures anymore. More Web sites are being developed that have short movie clips embedded in them. Look for URLs that have .mpeg, .qt (quick time) or .mov written in them. For these URLs you need the correct plug in to view movies within your browser. Again, check out the plug in sites mentioned above so you can download the appropriate one. (You can use a lot of disk space with plug ins, something else to keep in mind.) The movies add a different perspective to a Web site. They might make it more interesting or they might just be a novel gadget that is hot. Like all plug ins right now, they take time to download, and once downloaded, they do not take much time to play through. I find that disappointing. I have talked to several Web programmers about multimedia and they agree that plug ins are fun. They seem to be found right now in the commercial sites, and educational sites are only using them at a basic level. To learn more about Quick Time Movies, open **http://www.MediaCity.com/~erweb/** or go to Apple, the people who developed Quick Time at **http://qtvr.quicktime.apple.com/**. If you want to install a quick time player, open **http://qtvr.quicktime.apple.com/InMac.htm** for downloading and installation.



Some Web sites make use of live video. I've seen sites that have a video camera aimed at a refrigerator and the viewer can see how many times the door is opened during the day. At my university, there is a camera aimed at a small parking lot. It takes a new picture of the parking lot every three minutes. Since my husband works in the building by that parking lot, I check on the site to see if there are any parking spaces available before I pick him up.

There are positive uses with curricular value for live video. I always hark back to the bottom line . . . how can I use this tool with my curriculum? What is an objective for this Web site that will advance my curriculum? Looking at a Web site for the sake of a video on a refrigerator does not relate to the curriculum. This leads to CU-SeeMe (pronounced see you, see me), a program developed by the folks at Cornell. It allows you to see me, pro-



vided we both have video receiving and video sending units. Like a Chat with real time video. CU-SeeMe has been used by doctors in remote locations to clarify medical problems. There have been several CU-SeeMe Internet Conferences where attendees show up at a "studios" across the country that have CU-SeeMe set-ups. The conferees see and talk to each other via the Internet and the video hook up. It's the ultimate high-tech business meeting! A friend of mine uses CU-SeeMe to talk with his cousin who is a professor at another university. He says it's just like a phone call, but with live pictures. Very cool! CU-SeeMe can be a powerful device to get two or more groups of folks talking about a common topic. To learn more about CU-SeeMe, open **http://www.gsn.org/gsn/cu/index.html** at Cornell.

Java

The recent talk on the Web has been about Java, a new Internet language developed by Sun Microsystems. If you are using Netscape 2.x you can access some Java script, but you need Netscape 3.x or higher to enjoy all the benefits of Java. Java is not coffee. It's a complex programming language that allows Web sites to load faster. I have no idea how it works. I've read several tutorials and they seem like a foreign language to me. Just when I thought I had it nailed, I clicked on a Java'ed page, and my monitor said "you do not have a Java player." So much for that. From what I have been told, Java shortens download time by making the "graphics" an integral part of the page, as opposed to an add-on or plug in. If you are playing a game that has been Java'ed, you do not have to wait for new graphics to appear every time you click on your mouse. There is a Web site out there that lets you move the beads of an abacus one bead at a time in a real time format. At the Battleship Game Web site that has been Java'ed, you can play the game without reloading graphics all the time. Java is still an infant programming language. It is complicated, to say the least. Bruce Carter, the

Division Head of the Instructional Development Division at Boise State University told me the following when I asked him to explain Java to me in simple language.

> *Java is a programming language that is gaining popularity on the Web/ Internet due to its multiplatform (different types of machines) support. It's a lot like C++. You can write little "applets" (miniature applications) in it and attach them to your Web pages.*
>
> *As to why it's important, well, right now it's a raging fad. I'm sure it will evolve into a more useful tool along with the Internet and Web in general. Right now, it's just something for webheads to tinker with . . .*
>
> *Slightly different from Java is Javascript, which is a scripting language that you can use right in your Web pages. Essentially the same description applies, though it's still evolving into something really useful.*

I posed the same question to John Hart, another programming expert I talk to, and he said this:

> *The source code [for Java] is compiled to run as an executable on either the server side (CGI protocol) or on the client side (browser) [applets]. Java can do a variety of things as with most programming languages, it all depends on the author's intent, for instance Guestbooks, counters, and general forms handling, can be accomplished with Java. There are security concerns, especially for Java programs (applets) running on the clients machine and the applets are limited to what they can perform on the clients machine. For, "a more than you ever wanted to know," detailed information on Java and what it can do, go to:*
>
> **http://sunsite.unc.edu/javafaq/javafaq.html**
>
> **http://java.sun.com/doc/whitePaper.Platform/ CreditsPage.doc.html**
>
> *A Java tutorial (how to write Java applications and applets) can be found at:*
>
> **http://java.sun.com/books/Series/Tutorial/index.html**
>
> *Additional information and sources can be found at the JavaSoft (Sun Microsystems) site:*
>
> **http://www.javasoft.com/**

A non-technical description can be found at:

http://www.december.com/works/java.html

By the way, Javascript is similar to Java. However, Javascript is an interpreted language (it is not compiled into an executable) and is executed on the fly by an interpreter (browser). Javascript was developed by Netscape (and of course Sun Microsystems). Browsers must be capable of supporting Java and/or JavaScript to take advantage of the coding (programs).

Watch out for Java and JavaScript Web sites as more will be developed soon.

The Future of the Web

The Web is changing quickly. Simple Web sites are going to be enhanced with music, graphics, animated graphics, movies, and three-dimensional images. I am not convinced that these are going to be helpful to classroom teachers as they stand now. Real time Chat and video links to other people are already here. I am convinced they show promise in curriculum planning. Look into all of these enhancements as they are the harbingers of the future of teaching on the Internet.

Chapter 7:

Other Internet Tools

When the U. S. Department of Defense started the Internet (called ARPANET) in the late '60s, they funded it to create a decentralized computer network in which developers and researchers could easily communicate with each other using different types of computer systems. There was a real advantage to this type of compatibility across platforms (as it is called). This early network linked research universities, research laboratories, and some military labs together using communication programs via Telnet, FTP (file transfer protocol) and e-mail. With Telnet and FTP, a scientist could download files that were stored on computers anywhere in the U.S. Within a decade, the network grew to include connections in other countries and Telnet and FTP were standards of communication worldwide. The network continued to grow and more demands were made on what it could provide to researchers. To meet these demands, Gopher was created. Instead of Telnetting to a site and ordering a file sight-unseen, as was the case with FTP; a user could now read the file at a Gopher site. In addition, "ordinary" people were starting to access the network and newsgroups were formed. At first the Newsgroups revolved around topics related to the FTP archives, but as more lay-people began using the network, the role of Newsgroups expanded to that of special interest forums in any of hundreds of areas. The Net now had users from more walks of life than ever before.

In 1991, Tim Berners-Lee, director of W3 Organization and affiliate of CERN, the European Particle Physics Laboratory, created the World Wide Web using hypertext links. Then simplified navigation programs were developed, the old ARPANET ceased to exist, and even more people from "ordinary" walks of life got hooked on the Internet. The World Wide Web was the force that brought about the exponential use of the Internet. Instead of being a researcher or a scientist, you could be a regular person, who wanted to make use of this communication device. Soon millions of ordinary folks like you and me were accessing the Internet.

As each decade brought a different type of user to the Internet, it also brought different types of demands on the system. As the users changed, the navigation programs needed to become easier and more user-friendly. Telnet and FTP are from that first generation of Internet programs. They were used by researchers and scientists with lots of computer savvy. However, easy for them does not necessarily mean easy for us. FTP is not very friendly, what with compressing and decompressing files, and burrowing through pathways and directories to find a particular file. Gopher was part of the next generation of navigation programs. It is far easier to use than either Telnet or FTP, yet not nearly as powerful as newer browser programs. This chapter will look at three dinosaurs of the Internet: Telnet, FTP, and Gopher. Unlike dinosaurs, these navigation programs are not extinct yet, but I believe they will be in the near future as the new browsers become capable of doing a wider variety of tasks, more sophisticated, and easier to use.

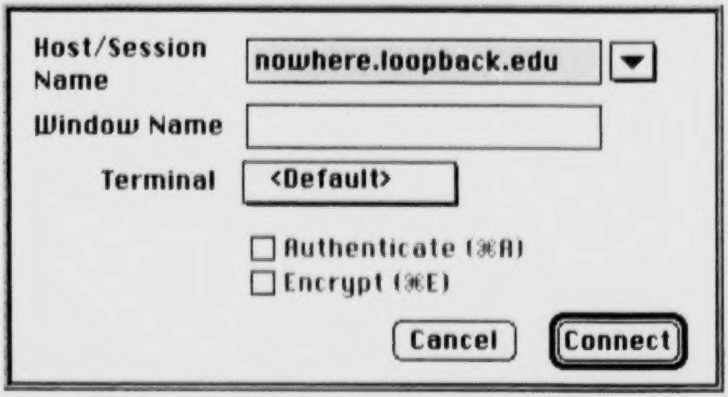
Telnet

We are used to working with icons and a mouse when on a computer. Telnet was created before those two inventions. The Telnet program lets you login to a remote computer to get information from it. Once you are at that computer, you use your keyboard and type commands telling that computer "out there" what you want. Because Telnet was invented before icons and "mice" were used, you can only use your keyboard for communication. For those of us who are used to clicking on buttons, or pulling down menus, Telnet can be a challenge since you cannot do any of those things. In addition, you have to be good typist! If you type a URL incorrectly you get a message saying it does not exist. In Telnet, if you type something incorrectly, you get nothing, not even a message. And to make matters worse, on some machines you cannot even use the backspace key to erase!

Technically speaking Telnet transforms your computer into a front-end terminal that works off of a remote computer, much in the way that the computer at an ATM (bank machine) works off of the bigger, smarter computer inside the bank. Front-end computers tend to be "dumber" than the computers they work off of, and that will be the case with your computer: Your keyboard will work, but your mouse won't; and on your keyboard, the delete key will work only some of the time. Because Telnet is letting your computer work with another computer, you may need a password or other means of access to get it.

As a result of this clunkiness, when I am using Telnet I read all the prompts carefully, type deliberately, and try to remember the magic words that enable me to make up for the lack of a delete key and a mouse. That way, when I make a typo, I can rectify the problem.

How to Use Telnet



Host/Session Name: nowhere.loopback.edu

Window Name:

Terminal: <Default>

☐ Authenticate (⌘A)

☐ Encrypt (⌘E)

The Telnet Open Connection dialog box

To use Telnet to connect to the Internet, do the following:

1. With your mouse, click on the Telnet icon to open the connection.
2. Wait for the beginning advertisement to clear from the screen, pull down the "file" menu, and click on "open document." A dialogue box will appear that asks you to type in the session name or host.
3. Type in the name of the place you want and hit return. (Telnet calls this the Host/Session name.)
4. A menu will be displayed that will tell you the login you must use to access the system. It will also give you directions on how to erase mis-typed information and how to exit the site. Read and remember this information! You will need it later.

You have now established a Telnet connection. Besides only being able to use the arrow keys, Telnet has another quirk: it is case sensitive. That means, if the login requests some curious combination of UPPER and lower CaSe letters, you must login with that precise combination of UPPER and lower CaSe letters. Telnet allows neither creativity nor disagreement at the keyboard. If you do not login as requested, you will not get to that location.

I have found two reasons for using Telnet, libraries and searching through FTP archives. I think the libraries are the more useful of the two, so I'll explain them first. I'll explain Archie a little bit later . . . it will all make sense, trust me. ; -)

Library Access via Telnet

The Internet gives a new meaning to the phrase "go to the Library!" For fully online libraries, you'll find an electronic "card" catalogue of books, articles, reprints, etc. Some libraries, however, are not fully online, while a few have only part of their collection online—usually the more recent titles. I use Telnet for every library search I do. It is so much easier for me to sit at my computer and find what I need at the library than to do the same thing in the library. Besides, I'm a night person who tends to want to do library searches at midnight, and most libraries are not open at that time of night. To borrow the slogan from the Yellow Pages company, "Let your fingers do the walking."

One fabulous library system to visit is CARL (Colorado Alliance of Research Libraries). CARL is more than one library; it is a Network of libraries around the world. When I lived on Guam, where library access was difficult, CARL was there. CARL and I have been friends for years! CARL gives access to current magazine articles, databases, university and public library systems, the whole ERIC database, and UnCover, which is a listing of journal and magazine articles and catalogues.

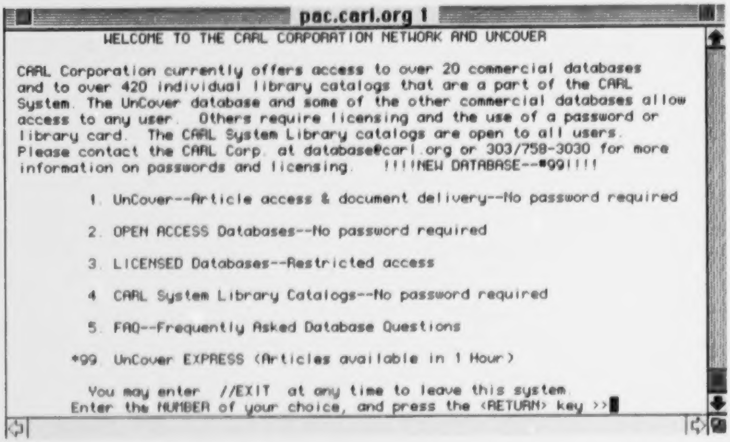
At many access points, CARL is free and open to the public; at some access points, CARL requires membership. (For example, some universities restrict use of CARL to faculty, staff, and students.) The means of gaining a CARL account, and the accompanying protocols, vary from server to server. However, there are some sites where you can browse the databases with an account and without accumulating any charges. The limitation is that you will not be able to download what you find. At other CARL sites you'll be able to make out like a bandit. The CARL site below is a pac or "public access site" so it is open to the Internet public. To Telnet to CARL, do the following:

Open Connection
Host/Session: pac.carl.org (pac stands for Public Access Catalogue)
Login: pac

Now comes the tricky part. You are going to get a prompt asking you for the type of terminal you are using. You must respond with a terminal type, or Telnet will quit. Many computers emulate a VT100 terminal, and that is option 5 on the Telnet menu. If you are using a different kind of terminal, consult with your techie to find out how to answer that Telnet request.

Terminal? Select 5 and press return

The next screen offers you a number of choices:



```
          WELCOME TO THE CARL CORPORATION NETWORK AND UNCOVER

CARL Corporation currently offers access to over 20 commercial databases
and to over 420 individual library catalogs that are a part of the CARL
System. The UnCover database and some of the other commercial databases allow
access to any user.  Others require licensing and the use of a password or
library card.  The CARL System Library catalogs are open to all users.
Please contact the CARL Corp. at database@carl.org or 303/758-3030 for more
information on passwords and licensing.   !!!!NEW DATABASE--#99!!!!

         1. UnCover--Article access & document delivery--No password required

         2. OPEN ACCESS Databases--No password required

         3. LICENSED Databases--Restricted access

         4  CARL System Library Catalogs--No password required

         5. FAQ--Frequently Asked Database Questions

       #99. UnCover EXPRESS (Articles available in 1 Hour)

         You may enter  //EXIT  at any time to leave this system.
       Enter the NUMBER of your choice, and press the <RETURN> key >>
```

Select the choice you want, and type in the number. Just keep on responding to the questions by typing in the correct answer at the prompt.

In addition to libraries, there are other Telnet sites available. However, most of these "other type" of sites are slowly moving over to the Web and are more readily accessible through a browser like Netscape or Internet Explorer. Below are some of the Telnet sites that I've visited recently and found fruitful.

UMassK12	Host/Session: k12.ucs.umass.edu Login: guest (use lower case letters) also available at **http://k12.oit.umass.edu**
ERIC	Host/Session: ericir.syr.edu Login: gopher also available at **http://ericir.syr.edu**
DCLOS (Dartmouth College Library Online System)	Host/Session: lib.dartmouth.edu Login: (no login was required when I did it) Exit Command: bye or quit
Big Sky	Host/Session: bigsky.bigsky.dillon.mt.us login: bbs or visitor Exit Command: bye

Each of these Telnet sites will give you access to a library or database that might be useful to you or your curriculum. The UMassK12 site is for Massachusetts educators, but you can use the guest menu to find information about selected newsgroups and download some lesson plans and science experiments. The UMassK12 site has a mirror location on the Web. You can Telnet to the ERIC database, also mirrored on the Web, to gain access to the wealth of information that the various ERIC clearinghouses provide.

At DCLOS you have access to the CIA World Factbook, full text to some Shakespeare plays, an electronic dictionary, and, if you are a faculty member, all of Robert Frost's poems. The Big Sky Telegraph in Dillon, Montana, offers educational resources and classroom teaching ideas ranging from lesson plans to science labs. You have to subscribe to the service, but you can login as a visitor to check it out. Big Sky has a mirror site on the Web at **http://macsky.bigsky.dillon.mt.us/**, which is a lot more colorful and easier to use.

FTP

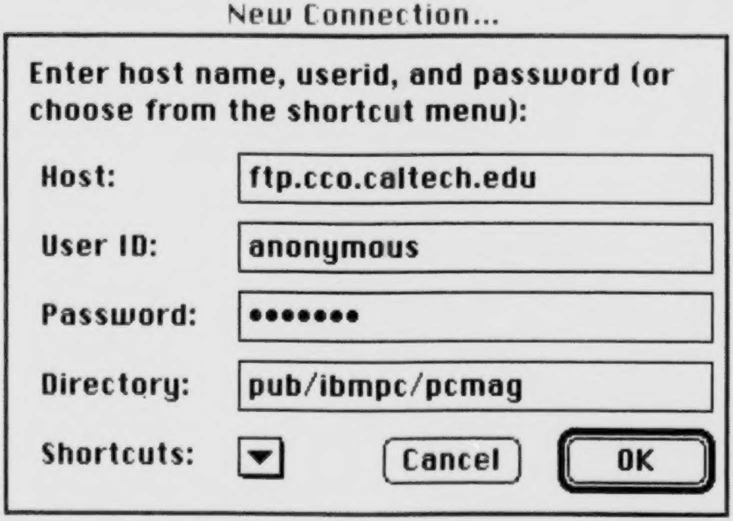
FTP stands for File Transfer Protocol and FTP and Telnet go together. In the old days, you needed Telnet to get to FTP. At the Telnet prompt, you would type FTP and there it was. Times have changed. You can now access FTP without Telnet, but it still does the same stuff it always did—accessing files from a computer out there and transferring those files to your computer. There are at least two types of FTP, anonymous and otherwise. We are going to talk about anonymous FTP because these sites are accessible by everyone. I only use one "otherwise" FTP and that is at my university when I have to download Web pages. That FTP is only available to Webmasters with the correct password.

At first, I was more unlucky than lucky with FTP. If you have ever tried to download some files using an anonymous FTP, you, too, may have turned away in frustration. It is getting easier because the new browsers will take you to FTP sites where you can download information quickly and easily. The old dedicated FTP programs will not do that!

Because FTP Archives are cram-packed with software programs (freeware and shareware); electronic versions of books and manuscripts; hypercard stacks; clip art, audio and video clips; games; and well just about everything else, you do need to know what to do with an anonymous FTP file. The best way to find and access FTP archives is by your browser, just by typing in ftp:// and the URL at the location box, and away you go! Using my browser and an ftp:// URL, I downloaded the most recent version of my printer driver, the most recent versions of Netscape and Internet Explorer, all the plug ins I could ever want for my browsers, and for diversion, a few games along the way.

Now is also a good time to warn you that FTP files are notorious carriers of computer viruses, so whenever you execute a file transfer, be sure to check for viruses before you install the program or upload the file on your computer. If you don't know how to check for viruses, holler for your techie again!

If, for some reason, you have a Fetch or FTP program on your computer, you might want to use it now, just for practice. Activate



New Connection...

Enter host name, userid, and password (or choose from the shortcut menu):

Host: ftp.cco.caltech.edu

User ID: anonymous

Password: •••••••

Directory: pub/ibmpc/pcmag

The Fetch Open Connection dialog box

FTP by clicking on the icon. After the advertisement for FTP disappears, go to File in the pull-down menu and click on Open FTP. At that point a dialogue box appears where you will type in the address you want.

Let's decode an FTP address so this will make some sense to you. The Anonymous FTP for *PC Magazine* is ***ftp.cco.caltech.edu***. Since *PC Magazine* is one of the most popular computer magazines in publication, why not get an online version of it?

Address:	ftp.cco.caltech.edu
User Name:	anonymous
Password:	(your e-mail address)
path:	/pub/ibmpc/pcmag/

An FTP address looks similar to an e-mail address without the @ sign. In this case, **ftp** tells the computer that you are going to a file transfer protocol; **.cco** is the name of the server where the file resides; **.caltech** is the location of the computer; and **.edu** tells the domain of the server. The FTP archive for *PC Magazine* is at CalTech, and that is an educational institution.

Next comes User Name—your name or the name you are using for this purpose. Since we are talking about anonymous FTP archives, your user name in this case is "anonymous." When the dialogue box asks for your password, type in your e-mail address (or you can leave it blank). By typing in your address, you are telling the server who's accessing the computer site. Since you are going to be getting something for free, this is a polite thing to do.

When the dialogue box asks for the "path" you have two choices. You can either type in the whole thing or break it up into smaller parts. I choose the latter because it always works. The quicker way of typing /pub/ibmpc/pcmag/ might work, but sometimes Fetch/FTP gets cranky and it will just whirl around for hours!

The forward slashes (/) signal changes in directories or movement to a subsequent file. If you type a path one segment at a time it will look something like this: The path or directory you are seeking is /pub/ which stands for "public access." Click on it and you will see a list of files in alphabetical order. Scroll down that list until you see /imbpc/ and click on that. Another list of files

will appear, and you scroll down that list until you see /pcmag/ (*PC Magazine*), the file you are looking for. Now double-click on /pcmag/ and click on the issue you want to download.
Sounds easy, but wait! There's more to it!

Decompression/Compression and FTP

There is one more aspect that I alluded to before, that of decompressing the file to make it readable. Once you have seen a list of FTP archives, you might have noticed they have little suffixes at the end of them. Suffixes that look like .txt, .tar, .hqx, or .zip are just a few. These suffixes can sometimes give you bad news. The only one I really like to see is .txt as that says the file I want to download is a text file that I can read without doing anything else. The other suffixes say the file has been compressed into a special format and for me to read it I will need to have the right type of decompression software. YUCK! Now you have to learn something else . . . the temperamental niceties of dealing with decompression software!

To get FTP to work to its potential you will need copies of different decompression programs (for Mac folks you will need UnStuffit; PC folks need PKUNZIP or PUNZIP). It's lucky that the new browsers like Netscape and Internet Explorer have the appropriate decompression programs built into them. If you do not have a new browser, you can download a decompression program, buy one, or call your local, friendly compu-techie, who will get you the programs you need and tell you how to use them.

You need these decompression programs to read the file! When was the last time you wrote something extremely short (besides a grocery list)? I don't think I ever have! The same thing is true for files or archives in FTP. They are all long because they contain lots of information. This information takes up lots of space, and space on a computer is not easy to find. To alleviate the space problem, the first-generation researchers developed ways to compress the long files into shorter files to take up less space. These researchers thought it was great fun to create a file, compress it down to almost nothing, then store it on an archive that other researchers could access. The other researchers would find out about this great "little" archive, download it, and with their decompression software programs, they would stretch it to its original size and read the information. Files that have been compressed cannot be read by mere humans . . . we need to stretch them back out to normal to read them, and this is why you need decompression software.

After you have downloaded an anonymous file, you need to check it for viruses, decompress it, then load it on your computer, all before you can read it or use it. Those are just a few of the reasons why FTP is not user friendly. However, if you know an FTP location, type ftp:// and the URL in the location box in your browser. Click on return. Your browser will start the download of the file, decompress or unstuff it as needed, and leave it on your desktop for you to put through a virus check program before you install it on your computer. The browsers make the onerous task of file transfer almost bearable!

Archie and Telnet

Before I took this little FTP birdwalk, I said there was one other use for Telnet—that of searching and finding FTP archives. Just as you search the World Wide Web with Lycos, WebCrawler, InfoSeek, or Inktomi, you search File Transfer Protocol archives (FTP) with Archie. Get it? Archie = Archives. To get to Archie sites, you need Telnet.

Archie sites are busy, and each one is identical to the other . . . they are all mirror sites. You may have trouble getting in because so many people use Archie, but there are ways around this. It is best to start out at the Archie site geographically closest to you. Listed below are all the Archie sites around the world. As you know, I am living in Wyoming, so my nearest Archie site is Nebraska. What is funny, is it's also my nearest site when I'm living in California!

Telnet address	Location
archie.au	Australia
archie.edvz.uni-linz.ac.at	Austria
archie.univie.ac.at	Austria
archie.uqam.ca	Canada
archie.cs.mcgill.ca	Canada

archie.funet.fi	Finland
archie.univ-rennes1.fr	France
archie.th-darmstadt.de	Germany
archie.ac.il	Israel
archie.unipi.it	Italy
archie.wide.ad.jp	Japan
archie.hana.nm.kr	Korea
archie.sogang.ac.kr	Korea
archie.uninett.no	Norway
archie.rediris.es	Spain
archie.luth.se	Sweden
archie.switch.ch	Switzerland
archie.ncu.edu.tw	Taiwan
archie.doc.ic.ac.uk	United Kingdom
archie.hensa.ac.uk	United Kingdom
archie.unl.edu	USA (NE)
archie.internic.net	USA (NJ)
archie.rutgers.edu	USA (NJ)
archie.ans.net	USA (NY)
archie.sura.net	USA (MD)

If the Archie site nearest to you is busy, select one that you think might not be busy. Think of the time zone you are in, then think of an Archie site in a time zone where the majority of the people are asleep. Whatever Archie site you use, follow the steps below, or Archie will not work!

To start the search, take the following steps:

1. Telnet to: archie.unl.edu
2. Login: archie
3. If you're lucky and the site is not busy, you will get a screen that welcomes you to Archie. If your local site is busy, try another site.
4. At the prompt type the key words that relate to the information that you want proceeded by the word "prog." If you are looking for fairy tales, you can use Archie to search out where they may be found. At the prompt "unl-archie>" type "prog fairy tales." It will look something like this:

```
unl-archie>prog fairy tales
```

If you do not know the type of command to give archie, at the prompt type help and you will receive a complete list of commands. Print these out as you will need them!

5. After pressing return, a message telling you where you are in the search queue appears on the screen as well as how long the search will take (this is not always accurate). Sometimes Archie is slow, but your patience can be rewarded with a large number of sites. Two of them are shown below.

```
Host ftp.std.com          (192.74.137.5)
Last updated 20:38     9 Apr 1994

     Location: /obi
        DIRECTORY    drwxrwxr-x    3072 bytes  12:26
19 Sep 1993  Fairy.Tales


Host ftp.uu.net            (192.48.96.9)
Last updated 10:01      23 Jan 1994

     Location: /doc/literary/obi
         DIRECTORY    drwxrwxr-x     512 bytes  23:00
13 Oct 1992  Fairy.Tales
```

If you can make sense out of that string of information, you are doing well. Let's try to decode the first item above. Remember, this is first generation "stuff" that the computer savvy researchers could decode.

1. Host ftp.std.com (192.74.137.5): This says there are some fairy tales at a host or server called "ftp.std.com" which can also be reached by its IP (internet protocol) number of 192.74.137.5. By the way, everything has an alternate IP number. You can get to any site by either form of address.
2. Last updated 20:38 9 Apr 1994: The second line tells you when the archive was last updated. Since this is 1996, it's been almost two years since anything has been added to

the file. However, since it is a fairy tale file, being up to date is not that important.

3. Location: /obi: This means that you will need to go to the /obi/ directory at this FTP archive to access fairy tales. (OBI stands for the Online Book Initiative, which is trying to have several thousand books available for downloading on the Internet.)
4. DIRECTORY drwxrwxr-x 3072 bytes 12:26 19 Sep 1993 Fairy.Tales: This says the fairy tales are in a directory as opposed to a file or something else. The string of letters that appear next tell whether the site is a file or a subdirectory; since this string of letters starts with "d" it is a subdirectory. (If it started with a "-" then it would be a file.) The file is 3072 bytes long and it was added to the archive in 1993. Lastly, the name of the directory I'm going to look for is "Fairy.Tales."

Whether or not all of this information is necessary is debatable, but you did find out an FTP location where fairy tales are retrievable. Now you can use your FTP/Fetch or your browser program and

FTP to: ftp.std.com
Choose: /obi

and find the files for Fairy Tales.

See if you can decode the essential information from the second item above. If you agree with what is below, you are on your way to understanding Archie.

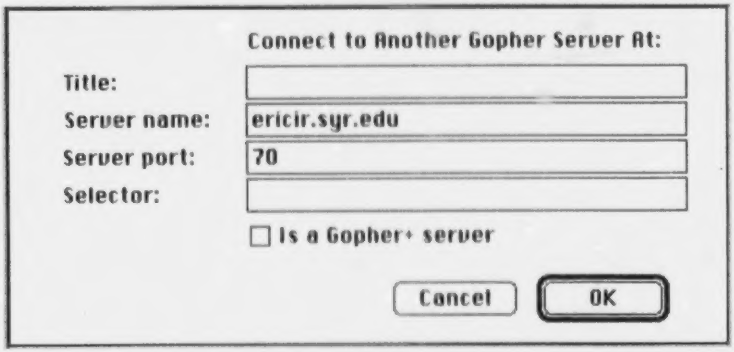
FTP to: ftp.uu.net (192.48.96.9)
Choose: /doc/literary/obi

Once you have decoded the returned information, quit Telnet, start your FTP program, and download the files. That's the other problem with Archie—he just tells you where the files are located, he does not find them. When you search on the Web, the files are listed and you click on the hypertext links to go to them. The newer search engines in a browser are so much easier to use.

I hope you have a better idea about Telnet and Anonymous FTP now. They can be used to find information just like the other programs. They are helpful, but cranky, somewhat slow, and they need more computer savvy than most of us have. And that, my friends, is why Gopher came about.

Gopher

Gophering is another way of working on the Internet. It's easier than Telnet and FTP, but harder than a browser. Let's jump in and try one so that all this talk will make some sense. Double-click on the icon for your Gopher (TurboGopher if you have a Mac). An advertisement appears on your screen and then a screen appears that says *Home Gopher Server*. My home Gopher server is the University of Minnesota where the Gopher program was developed. To ensure that we are all looking at the same page, pull down the FILE menu on your screen and click on ANOTHER GOPHER. A dialogue box with four prompts will appear. It looks something like this:



Connect to Another Gopher Server At:

Title:
Server name: ericir.syr.edu
Server port: 70
Selector:
☐ Is a Gopher+ server

The Gopher Open Connection dialog box

When this dialogue box appears, type in ericir.syr.edu where it says "server." Note that you can leave "title" and "selector" blank. The really important line is "server" for it tells your Gopher program where to go. Also note that the "server port" is 70, because most Gophers live there. On occasion you will be asked to put another number here, and when that happens, just delete 70 and enter the new port number.

You are now at the ERIC Gopher in Syracuse, New York. Here you can look at Ask ERIC files, retrieve lesson plans, and basically do all the stuff you can do at it's mirror location on the Web at **http://ericir.syr.edu**. The reason to access ERIC by Gopher instead of by browser is simple . . . the Web URL might be busy and the Gopher location probably will not! It's another way to get to where you want to go. Also, some of the older computers (pre-286 PCs and pre-SE/30 Macs) cannot deal with the really sophisticated browser programs, and Gopher is all they do.

Gopher is not hard, especially after dealing with Telnet and FTP! Like any of these programs, it just takes a while to dig through the maze. There are so many files, so many places to go, so many selections from which to choose, and so many different ways to get lost! When you are looking for something in particular, what do you do? You can attack the problem in one of several ways.

1. Surf until you find it (which might take forever).
2. Type the Gopher address as written from some known reference point (which means you already know where you want to go).
3. Do a search with Veronica (discussed below).
4. Cheat and use a search engine or directory on your browser. You can always search Gopher the easy way by treating it like any other resource. When you are in your browser, and see a Gopher address, you can access it by typing gopher:// and the URL you want.

Searching Using Veronica

You already know how to surf, and you are probably quite good at using search engines and directories in your browser. So let's try searching with Veronica.

Just who is Veronica anyway? Depending on whom you ask, Veronica stands for "Very Easy Rodent-Oriented Net-Wide Index to Computerized Archives" or she got her name because Archie was searching FTP files, so his girlfriend, Veronica, should search Gopher files. Veronica, the search engine, allows you to scan GopherSpace quickly for particular files and directories. (By the way, there is a Jughead too . . . he's the "find" button on Netscape, which allows you to search one document for a word or phrase.)

Here's how Veronica works. Let's use the Gopher at ERIC as an example:

```
Open Another Gopher
Server:        ericir.syr.edu
```

At this point a screen appears that has a bunch of file folders on it, each with a different name or description. Scan down the file folders, and you will find one with a question mark (?) in it. That's Veronica's signature. If no "?" is there, then read the descriptions, looking for one that says "Veronica" or "Veronica Search" or "Search" (compu-techies are not always consistent). On some Gophers, instead of any of the above, you will see an icon that looks like a pair of binoculars—that, too, is Veronica.

Double click on the ? (or whatever symbol is used) and you will get a small dialogue box that has a rectangular blank in it. In the blank type a word or short phrase. In the ERIC Gopher, I searched for "censorship" because censorship is a hot topic on the Internet right now. Give it a try, and you will find a plethora of articles about censorship, including some on Internet censorship. (This search happens to have been a lot easier than some others I've done—often I strike out with Veronica because I do not know the right word(s) to use.) You can use Boolean operators ("and," "or," and "not") with Veronica, however, if you are searching for a two or three word phrase and do not use Boolean operators, Veronica will assume you mean "and" between each word. Thus if you are searching for "League of Women Voters," Veronica will assume you mean "League and of and Women and Voters."

There are several good GopherSpace locations you might want to visit, however, the number seems to be staying about the same as it was a few years ago. People are not investing their time in new Gopher sites, they are developing Web sites with multimedia and frames that are far more colorful and powerful than anything the poor little Gopher could do!

Gopher Address	Explanation
Server: unix5.nysed.gov	**New York State Education Gopher** is a place to find K-12 resources as well as a good Veronica search engine. A list of electronic books is available at this site too.
Server: cwis.usc.edu Choose: Other Gophers & Information Resources/Gophers by Subject/Gopher Jewels (You will need to dig to find this resource.)	**Gopher Jewels** is a huge database with information on health, government, education, humanities, natural science, math, and more. It has a very powerful Veronica search capability. Read the information and help pages before you try to work with Gopher Jewels.
Server: archives.math.utk.edu	The **Mathematics Archives Gopher** provides teachers with access to public domain and shareware software as well as materials for teaching high-school mathematics.
Server: ralphbunche.rbs.edu	**Ralph Bunche School Gopher** is unusual . . . a school site with its own piece of GopherSpace. Check out the lesson plans, student work, and the science projects. You can also access this school on the Web.
Server: tiesnet.ties.k12.mn.us	**Best of K-12 Internet Resources via TIES** is like the title says. You can find information on news, online guides, books, and entry to other Gopher sites, and there is a Veronica to use when all else fails.
Server: chronicle.merit.edu	**Chronicle of Higher Education** is useful if you are in higher education. At this site you can read the news of Academe, look at the post-secondary job market, and see the list of the top ten books read on U.S. campuses.

Summary

Telnet, FTP, and Gopher have their place, but I believe it is slowly becoming smaller and smaller as the Web continues to become a larger, more user-friendly environment. You will note that as you look at the information found on Telnet, FTP, and Gopher, much of it is over a year old. The sites are still working, but without maintenance they soon lose their immediacy and their newsworthiness. The browsers are *now*, while Telnet, FTP, and Gopher are *then*.

Section 2

Lesson Plans and Other Ways to Use the Internet

Chapter 8:

E-pals and Keypals

The past few chapters have shown you ways to retrieve information from the Internet using your browser and other tools. You have been visiting Web sites, reading information, clicking on links, and engaging in one-way communication. With e-mail (electronic mail) you can engage in two-way communication on the Internet, where you can initiate a conversation as well as reply. E-mail is one of the more powerful and useful tools available on the Internet, and, depending on your mail program, is possibly the easiest service to use on the Internet.

When you're in an e-connection with your e-buddies around the world, snailmail (a somewhat derogatory term for the postal system) becomes outdated. No more phone tag, voice mail, missed calls, lost mail, insufficient postage, or expensive overnight FedExes. (Now we have downtime, off-line links, system bugs, and the constant threat of upgrades instead!) With e-mail you are in direct, immediate, and almost instantaneous contact with people all around the world. (Some e-mail transactions take overnight for delivery, depending on the technology involved; and even people who use e-mail still forget to read and answer their mail!) With e-mail, you can always find your correspondents, and they can always find you. In close contact, you can write messages to each other, read messages, file them, print them out for documentary evidence, and/or respond. And you can do all this without having to think on your feet in real time on the telephone—you can take your time as you ponder your replies, correct them, or even change your mind and delete them rather than sending them. Then, once you send your messages, many e-mail systems will automatically file away a copy of your reply for future reference. It's that simple and that wonderful!

Once you get an Internet account, you have an e-mail address. To send and receive e-mail, you need an e-mail software program, but so many of these are on the market, and easy to install and use, that I will not bother to attempt to list their names, discuss their merits, or explain how they work. They're all pretty much alike, except that the specific command language differs from program to program. For example, "write a message" in some programs is called "compose," whereas in other programs it is called something else; in some programs, "send a message" means to "file it," whereas "send it" is accomplished with a Control-X command. And so on and so forth—you have to spend some time getting used to the quirks of whatever program you're stuck with. Most programs have more-or-less the same heading at the top of each message: a "To:" line (e-mail address of the recipient), a "Subject:" line (space for a topic heading), a "Copy:" line (if you want to send a copy of the message to someone else simultaneously), and a "From:" line (your e-mail address to which your correspondent may reply); some programs are more complicated than this.

Another item of similarity for all the programs is your unique address, yours alone, much like a social security number. E-mail addresses, while they might look long and confusing, are relatively easy to decode: Think of an e-mail address as analogous to a snailmail address. In snailmail, you have a name, a street address, a city, a state, and a zip code. Likewise with e-mail, you have a name (usually made up of a first-name initial and a last name, though sometimes made up of numbers and random letters), the @ sign, the server ID (= the street address), a dot (.), location of the server (= city and state), a dot (.), and a domain (= zip code).

My e-mail address, for example, is ecotton@oavax.csuchico.edu. In this case, ecotton stands for Eileen Cotton; my server is at (@) a computer called oavax, located at California State University, Chico, in that town (.csuchico), where I teach, so it is an educational domain (.edu). Quite often, the name section is the first initial and last name of the person at that address (as in my case), but this is not always the case. I have an e-friend who has a series of numbers in the name section of her address; while this makes her anonymous, it is difficult to remember. Fortunately, many e-mail programs give you the ability to make nicknames so you don't need to remember long handles.

Domains other than education (.edu) will be reflected in the last part of e-mail messages that you will receive from all over the world: .com (commercial), .org (non-commercial organization), .k12 (school district), .mil (military), .net (network), and .gov (government). E-mail addresses outside of the U.S. have a country abbreviation, a two-letter suffix after the domain: .jp for Japan, .ca for Canada, .uk for the United Kingdom, .nl for the Netherlands, for example. Most e-mail addresses in the U.S. do not end in .us, but they could.

A fun exercise for your students is to collect domains or countries like some people collect stamps. See how many different countries are represented by the e-mail they receive, then mark these countries on a world map. It's a painless way to learn geography.

Notice that I have written all the e-mail addresses in this book in lowercase letters: ecotton, not ECotton. This is not required in this instance and certainly not by every system, but it is required by some systems—these uncooperative systems are said to be "case sensitive." It's a good idea, therefore, to get into the habit of typing all your Internet addresses in small letters, rather than large, to avoid the headache of that nasty, machine-generated reply: "Undeliverable Message."

What purposes does being on e-mail serve? You can talk with someone else about something of interest to you and your correspondent. You can share news, voice opinions, and compare and contrast facts and figures. It's a great way to encourage your students to read and write in an "authentic" (real-life) situation. It's electrifying to kids to realize that they are in e-contact with somebody in Russia or Africa or Asia. E-mail is fun, easy, informative, inherently educative, for as they say, "Travel is broadening," and e-mail is electronic travel. Now that we have e-mail, our telephone and mail habits will change, and these changes will last our lifetime (or until the next big technological revolution happens and we're all talking on wristsize digital color videophones!). To get your students ready for e-mail is to prepare them for their immediate and future personal, academic, and business communications.

To communicate with someone else on e-mail, you need the other person's address. At present, the best way to find someone's e-mail address is to call them up and ask for it. Short of a phone call, you can try the Web and your browser. At a Web site called "Finding E-Mail Address" at **http://darkwing.uoregon.edu/~rhaller/emailad.html** you can type in all or some of the information they request at a prompt box, and this search engine will try to find the e-mail address you are requesting. WhoWhere at **http://www.whowhere.com/** and GNN Select Internet Directories at **http://gnn.com/gnn/wic/wics/internet.wp.html** are two more Web sites where you can find information about e-mail addresses.

Another way to find a specific address of someone you are seeking is to send an e-query to the "postmaster" or the "Webmaster" at the site where you think the person's e-mail account resides. People almost always include their e-address as part of the information on their home pages. If you forget my e-mail address, but remember my name, then either send a query to postmaster@oavax.csuchico.edu and ask for Eileen Cotton's address or look me up on our CSU, Chico home page. Most postmasters and Webmasters are very helpful; some aren't though.

At first, you and your students may have the problem of no one to send e-mail to. A quick and easy way to solve this problem is to subscribe to a list (often called a listserv)—a special-interest group that talks about something you are interested in. Right after you e-mail your subscription to the listserv—probably that very day, and sometimes within minutes—you'll have more e-mail than you have time to read (fortunately, you can always delete messages that aren't of interest to you). After you have "lurked" on the sidelines for a while, learning the protocols of the list and the habits of the people who frequently post messages, you can take part by sending a message to the list. Your first message could be a simple one of self-introduction: "I'm new to this list. I'm interested in . . ." Someone will answer! You may be surprised at how many replies you will receive to your message. Here, however, is a point at which to teach your students reasonable cautiousness: just as we tell kids not to take candy from strangers and not to get in cars with people they don't know, tell your kids not to give out their phone numbers, home addresses, or credit-card numbers over the Internet unless you or a parent knows.

How do you find lists that interest you and your students? How do you subscribe? These lists/listservs are sometimes called "mailing lists," "bulletin boards," or "networks," and there are lots of them. You can subscribe to lists that deal with kids, learning, education, computers, libraries, art, music, endangered species, media, sports, any content area you teach, and any subject you want. There are, literally, thousands of lists.

To receive an up-to-date list of listservs on just about any topic, send an e-mail message to "listserv@cunyvm.cuny.edu" ("cuny.edu" stands for City University of New York). They will do a free global search about your topic and return to you a list of names and addresses of e-groups you might be interested in joining. In e-mail, here's how to do it:

To: listserv@cunyvm.cuny.edu
Subject: (leave blank)
Message: List global/category that you are interested in

This search will automatically generate for you a list of active mailing lists matching the key word or key phrase that you type in following the forward slash (/)—where I have typed "category that you are interested in"—and then that list will be returned to you via e-mail. When I, for example, sent the command List global/education, in a few minutes I received a message about ten pages long listing all the mailing lists in education—a list ten pages long for education alone! If you prefer not to receive so much information, narrow your keyword search. A narrower search would be "education-K–12" or "education-special" or "education-arts" or whatever else you are interested in.

Publicly Accessible Mailing Lists

You can also receive similar information by using a browser on the Web. Publicly Accessible Mailing Lists—by Subject at **http://www.neosoft.com/internet/paml/bysubj.html** has lists of listservs available at a moment's notice. At GNN Select Internet Services mentioned above at **http://gnn.com/gnn/wic/wics/internet.wp.html** you can also get a list of listservs that is 116K long and growing.

E-Mail Etiquette or Netiquette

The Net: User Guidelines and Netiquette

Before your kids start joining lists, you have the perfect opportunity to give a lesson on e-mail etiquette or "netiquette" as it is called. Just like you have to learn which fork to use when dining, there is a protocol to learn with e-mail. It is impolite to write a message using UPPER CASE letters, as that means you are yelling at your correspondent. Don't use any four-letter words. Don't be too antagonistic when you write a message, in other words, don't flame (that's the lingo). The Netiquette Home Page by Arlene Rinaldi does a good job of explaining the proper rules of E-mail and the Internet. Go to **http://www.fau.edu/rinaldi/netiquette.html** and check it out. She claims she is not the Miss Manners of the Internet, but you could fool me.

Teachers and Kids in the Ether Together

Because K–12 is what we do, K–12 discussion lists are a good starting point. If you don't want to look up your own lists, then you can subscribe to any of these K–12 listservs listed below:

Kidsphere Network is an excellent list for teachers, with two components: one for teachers and one for kids.

To: kidsphere-request@vms.cis.pitt.edu
Subject: (leave blank)
Message: subscribe kidsphere *Your Name*

World Wide Web in Education is a large general mailing list that deals with setting up Web sites and home pages.

To: listserv@k12.cnidr.org
Subject: (leave blank)
Message: subscribe wwwedu *Your Name*

ECE Net-L is dedicated to early childhood education, ages 0–8.

To: listserv@postoffice.cso.uiuc.edu
Subject: (leave blank)
Message: subscribe ECE Net-L *Your Name*

Middle-L is a list for teachers, administrators, and parents who seek solutions, projects, and resources for middle schools and the "kids in the middle."

To: listserv@postoffice.cso.uiuc.edu
Subject: (leave blank)
Message: subscribe Middle-L *Your Name*

EduPage is a bi-weekly summary of recent news items on computer technology in the schools.

To: listproc@elanor.oit.unc.edu
Subject: (leave blank)
Message: subscribe EDUPAGE *Your Name*

INCLASS is a moderated list sponsored by Canada's School Net Project on the use of the Internet in the classroom from a Canadian perspective.

To: listproc@schoolnet.ca
Subject: (leave blank)
Message: subscribe INCLASS *Your Name*

In your e-mail subscription to these listservs, I say for you to write *Your Name* in the message field. What I mean is for you to type in your own name after you write the words that come before (and a space); this is the name to which the server will send the automatically generated reply. When I subscribed to Kidsphere, it looked like this:

```
To:         kidsphere-request@vms.cis.pitt.edu
Subject:
Message:    subscribe kidsphere Eileen Cotton
```

You will notice that I broke the rule: I spelled my name with a capital E and a capital C; I'm not e.e. cummings, after all! I wanted my name spelled right on all the messages that would come my way.

To subscribe to any online list, you use the same formula: subscribe <name of list> <Your Name>. *Do not type anything else!* You are going to send this message to a computer, so you can leave the subject line blank—no sense in confusing the poor machine with unnecessary information. Indeed, the absolute rule when communicating with a listserv, whether to subscribe or unsubscribe or ask for other services, is to use only the specific language which that system requires.

After you send the message, a response will arrive stating the rules, protocols, and FAQs (frequently asked questions) of that list, among them being this most important question: "How do I get off this list?" Save this information! I didn't do that for the first two lists I subscribed to. Later, when I needed help, I did not know how to get it, and when I wanted to get off the lists, I didn't know how. Sometimes you want to take a vacation or escape from a list for a while, and the set of FAQs tells you what you need to know to control the list's access to your e-mail account. Deleting the instructions is a terrible mistake!

All lists have three addresses: (1) the discussion address, for ordinary purposes; (2) the automatic address, for requests that will generate automatic machine-generated administrative responses; and (3) the address of the list moderator/owner/SysOp (systems operator). If you want to discuss things on the list, use the discussion address. If you want to unsubscribe, get an archive of previous listings, find out who else is a member of the list, or get a digest version of today's correspondence, use the administrative address. If you want to talk privately to the moderator, use the third address. Try not to get these addresses confused. It is usually easier to remember the discussion address than it is to remember the other two. This is one of the few times when pencil and paper can still be helpful.

Use the moderator's personal address, not the listserv address, when you want to complain about some list member's bad netiquette or when you are hopelessly confused and don't know what to do next. The moderators of some lists look at the incoming mail and screen it for pertinence; other lists are unmoderated. For school purposes, I prefer moderated lists. A savvy, fair-minded moderator can keep a list civilized.

Lists just for kids abound. There are a number of lists to which kids may subscribe and where they will find many willing penpals—or, rather, keypals or e-pals. To subscribe to these lists, you and your students will send subscription messages that follow the guidelines stated above. Notice that the name of the list and the address to which you send your subscription are not always the same. In your subscribe command, use the name of the list, not the address.

Kids Mailing List is an international list for kids who want to send and receive messages from other kids.

To: joinkids@vms.cis.pitt.edu
Message: subscribe joinkids *Your Name*

Kidcafe is for 10-to-15-year-olds who want to chat.

To: listserv@listserv.nodak.edu
Message: subscribe kidcafe *Your Name*

Penpal-L is a list that does what its name says it does.

To: listserv@uncc.edu
Message: subscribe Penpal-L *Your Name*

International E-mail Classroom Connections is a list for teachers who are seeking classes to partner with their classes for international and cross-cultural e-mail exchange.

To: iecc-request@stolaf.edu
Message: subscribe IECC *Your Name*

Other than setting up keypals and e-pals, what else can you do with e-mail? Lots! And a kid of any age who can hunt and peck out words on a keyboard can take part. Even little kids who can't write or type can dictate messages to big kids who can. The idea of having e-mail waiting is very enticing, and most kids get excited at the discovery that there are people out there who want to speak with them. The ease with which one generates, corrects, and deletes text on an electronic keyboard; the relative interpersonal immediacy of e-mail; and all the many other fascinating aspects of this new toy, the computer on the Internet, make it the greatest incentive ever to early literacy. For little hands struggling to gain small-muscle control, it used to be hard to learn to write; now it's easy—and they're never too young to start.

One spring semester, I was in communication with a first-grade class, and the youngsters clearly understood what they were doing. Never think that your students are either too young or too sophisticated to participate, and don't be surprised or offended when your young students take more readily to computers and the Internet than you do. It's called the Generation Gap, and this time, you and I are on the wrong side! Turn them loose, let them go, and learn from them all you can!

In Your Classroom

Keypals on the Internet

Goal

To broaden the horizons of your students while encouraging reading and writing skills, higher-level thinking skills, and civilized discourse with other members of the human community.

Rationale

It's always nice to have someone else to talk to, bounce ideas off of, and have a gossip fest with. It's also good to have friends all over the world in case you ever go on a long trip.

Objective

Students write and respond once a week to a keypal not in their hometown. Purpose of the e-mail correspondence is to discuss, compare, contrast, and analyze topics that are being studied in class (from weather-watching to bird-watching, work and hobbies, culture and dating habits, moms and dads, food and algebra, world events and local disasters, just anything). You must decide beforehand the exact objective you want to emphasize and you should have a class of e-mail recipients arranged that is also working on the same objective.

Procedure

Before starting this assignment, you have done the background search and identified a classroom of keypals for your students. Set the stage with your students by sharing some e-mail from a list on which someone from far away talks about a topic of interest to your class or, maybe, asks you a question about your students. Let your students choose from the keypals you have found to whom they want to write. Make sure that everyone knows how to subscribe to a list. Make sure that everyone finds an e-pal, and that everyone gets a communication line started. As the semester progresses, prompt your students to engage their keypals in discussion of various aspects of topics and subjects being studied in your class.

Evaluation

By the end of the semester, your students will have gained a better understanding of, and broader perspectives on, the topics and subjects covered in your class because they will have absorbed the perspectives of their e-pals and keypals. They will have experienced reading the authentic (real) writing of other people. They will have written their own ideas in cogent and meaningful ways that were efforts at being understood by respected peers, rather than mere school exercises. They may have developed friendships that span miles and oceans and may stand the test of time.

Once your students have keypals, you and they can study geography by pinpointing the locations of e-mail correspondents. Suggest that your class make a "country collection" (and a "domain collection," too) by looking at the suffixes at the end of each e-mail address. You can study language arts by looking at speech patterns, letter composition, spelling, and effective ways to convey an idea to other people. Your students are accustomed to having you correct their writing in terms of its content, cogency, organization, grammar, syntax, and spelling. Ask them, now, to pass judgment on the writing of their e-buddies—not that your students will necessarily remark to their e-pals and keypals on their English usage. If your class partners with a class of kids overseas learning to speak English, however, your students can have great fun—and learn more language skills than ever before by being ESL teachers and teaching the other kids better American English. Your kids, in turn, might start learning another language.

You and your class can engage in cross-cultural communication, explore others' points of view, learn about distant countries, and expand your minds and hearts to awareness of other people's holidays, celebrations, clothing styles, food, hobbies, hopes, and loves. Your kids will be fascinated to find out the similarities and differences of other kids' lives, their parents and siblings, who lives in the household, and what other kids do for spending-money.

I was scanning some keypal messages from Germany in which the students were talking about living in "terraced houses." A good question for a keypal to ask is what the difference is between terraced houses and ordinary houses. Try communicating with a class in the eastern hemisphere, and find out about time zones. Try communicating with a class in the southern hemisphere and discover differences in the seasons, weather patterns, and the Coriolis effect (in the northern hemisphere, water swirls down drains in the opposite direction than it does in the southern hemisphere). For older students, lists in many specialized areas are not necessarily dedicated to students, but many adults are quite willing to correspond with thoughtful kids.

The number and styles of lessons you can do involving e-mail are limited only by your own and your students' imaginations. Use e-mail and list participation at all grade levels. Let your lesson-planning creative juices flow, and you and your students will discover that your own classroom is the center of the universe.

Chapter 9:

A Whale of a Time!

Whales, Dolphins, Seals, Sea Lions, Elephant Seals, Sea Otters, Polar Bears, Walruses, Manatees, and Friends

Whales—like dinosaurs—fascinate kids. Willy is a whale. Flipper is a dolphin. Other deep-sea creatures—from Moby Dick to Nessie to Monstro—swim through our imaginations. One reason that sea critters are compelling is because they are seldom seen by us landlubbers. Think of the trouble Captain Ahab had getting a closer look at his whale! *Free Willy* is a movie about our bad collective conscience over keeping these magnificent folk—who talk and sing to one another with a greater vocal range than humans have—in prison to satisfy our zoological curiosity. A kid who lives on either the Pacific or the Atlantic coast may once in a while get to see a whale or a sea lion in its natural habitat. But, generally, marine mammals can be visited only in zoos and aquariums, or—like the dinosaurs—their bones and stuffed carcasses can be visited in museums.

Just as there is many a dinosaur lurking here and there at the right URL on the Internet, so also, however, can whales, dolphins, seals, sea lions, elephant seals, sea otters, polar bears, walruses, manatees, and other marine mammals be spied out there in the great ether sea. What's more, they can be Netted! This chapter contains a Web browser-only lesson that helps you refine your Internet techniques while simultaneously teaching about some nifty seagoing creatures.

"Both at the same time"—this learning theory underlies my whole approach in this book. I offer you a painless way to teach both content and method, both subject matter and Internet savvy, and both skills and fascination. Learn all about marine mammals by learning how to use the Web well. Learn how to surf the Internet masterfully and all about the sea critters—both with a few deft strokes.

If you want to, review Chapter 2 to remind yourself of the basics of the Web and your browser and to bone up on the abbreviations. Now, carry your Net whaling a bit further, or, take advantage of the fishing that has already been done for you, and then sail on from there.

In Your Classroom

Sea Zoo

Goal

To develop a better understanding of the characteristics, habitats, and aquatic adaptations of marine mammals, while using some of the capabilities of a Web browser.

Rationale

Many kids think that marine mammals are among some of the world's most interesting creatures. They are among the largest animals on earth, they live in the ocean, they breathe air, and they communicate quite effectively with tweets, whistles, clicks, grunts, moans, and other sounds that reverberate through both air and water. Some of them look like fish, act like fish, swim like fish, and even smell like fish, but they are not fish.

As your students learn about the marine mammals themselves, their habitats, where they may be found in the oceans and rivers of the world, and how they communicate with one another, help your students learn also about the human attempt to communicate with marine mammals, the Marine Mammal Protection Act, and the encouraging recovery of protected marine mammal species. Who would want to live in a world where there were no more sea otters to swim on their backs using their chests for a kitchen table? Who would want to live in a world where the humans had eaten all the whales? Who would want to live in a world where mermaids and mermen, manatees and dugongs, were extinct?

Objectives

Use a Web browser to gather information about marine mammals. Show similarities and differences among the various types of marine mammals. Search out one particular type of marine mammal and develop a three to five minute "television program" about it (or other type of report/analysis), downloading video and audio coverage, if possible, with which to illustrate the program. Explain the impact of the Marine Mammal Protection Act on marine mammals and other fisheries. Determine whether the Protection Act has been instrumental in the recovery of protected species. Have groups of students complete and share with the class a K-W-L chart (see below) on a specific marine mammal. Show the similarities and differences among the several marine mammals.

Procedures

Set the stage by showing pictures of marine mammals to heighten your students' interest. Brainstorm with your students about what they already know about marine mammals using a K-W-L chart:

K-W-L about Marine Mammals

What do I **KNOW** about Marine Mammals?	What do I **WANT** to know about Marine Mammals?	What have I **LEARNED** about Marine Mammals?

During the first session, your students will fill in the first two columns; after they have surfed the Net in pursuit of all kinds of marine mammals, they will fill in the last column to make apparent what they have learned. Post the chart in the classroom so that, as it fills with information, everyone can see exactly what they are learning.

Using the big K-W-L chart as a guide, propose that your students, either individually or in groups, develop their individual K-W-L charts for a marine mammal of their special interest. They can choose from a wide variety of fields of information, including—but not limited to—the following: habitat; characteristics of a particular species; characteristics of individual marine mammals; locations where various species are found; pictures of individual critters; impact of the Marine Mammal Protection Act on specific groups and habitats; various marine mammals in stories, books, and poetry; scientific articles and reports about marine mammals; communication techniques of various species; human attempts to communicate with marine mammals; hunting/harvesting; and human uses of marine mammals.

After your students have completed gathering their information and developing their individual or group K-W-L charts, they then may use the charts as a basis for leading a class discussion on the marine mammal(s) that they have learned more about. From the K-W-L charts a comparison/contrast chart can be developed to show similarities and differences among the various marine mammals.

From all the information gathering and presentations, a class database can be amassed on marine mammals, making the collective information base readily accessible. Using a database program, key the charted information in various categories, where it can be easily revised, expanded, corrected, enlarged, and reformatted according to a theory, bright idea, or whim. The information base then becomes a substantial basis for filling in the third column on the big K-W-L chart: "What we LEARNED."

Evaluation

The several individual and group K-W-L charts, and the in-class presentations made in reference to them, form one basis of assessment. Establish a grade on two main premises: method and content.

***Content*:** How much, in what detail, what kinds of knowledge, how interesting, what personal insights, what relevance to your students' own lives, what meaning derived and transferred to other aspects of life?

***Method*:** What was the extent of Web surfing? How clever a use of search engines? How thorough a search? How many mirrored sites? What elusive or unexpected sites? What use of non-Web-based technology? What discovery was made through personal contact via e-mail, lists, or newsgroups?

Use the big K-W-L chart as a class equalizer-having made sure that everyone took part in contributing to the big chart, give it an A and share that A with the whole class. Collaborative effort ought to result in greater results than merely individual effort. Make sure that it does!

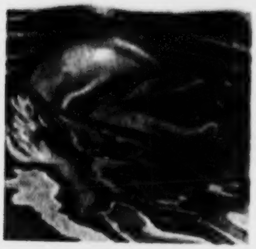
This unit on marine mammals may be the first solo Websurfing that your students have done. Help them get started, if they have trouble; and to help you get started, check out the sites listed below, where you'll find quite a catch of sea creatures.

A Full Net

Sea World Marine Mammals

http://www.bev.net/education/SeaWorld/infobook.html

You can find a list of links to most marine mammals at this site. The information is geared to kids. A few links are listed below:



Bottlenose Dolphins
http://www.bev.net/education/SeaWorld/bottlenose_dolphin/bottlenose_dolphins.html

Killer Whales
http://www.bev.net/education/SeaWorld/killer_whale/killerwhales.html

Manatees
http://www.bev.net/education/SeaWorld/manatee/manatees.html

Walrus
http://www.bev.net/education/SeaWorld/walrus/walrus.html

Baleen Whales
http://www.bev.net/education/SeaWorld/baleen_whales/baleen_whales.html

Each of these sites has links to the corresponding marine mammals' physical characteristics, scientific classification, habitat, food and feeding, gestation, sleep, and social structure.

Marine Mammal WWW List

http://elpc54136.lboro.ac.uk/links.html

A general list of links to other marine mammal Web sites that is informative but written for older kids.

Bill Lemus' List of Links

http://www.rtis.com/nat/user/elsberry/marspec/ms_blem.html

Considered one of the best sources of Web information on marine mammals with over fifty Web sites, many of the links have marine mammal pictures as well as text.

Dolphins Rehabilitated by Texas Marine Mammal Stranding Network

http://www.rtis.com/nat/user/elsberry/marspec/tmmsn/rehab.html#xeno

Two personal interest stories about two stranded dolphins, how they were saved, rehabilitated, released, and tracked.

Marine Mammal Protection Act

http://ash.lab.r1.fws.gov:80/./cargo/mmp.html *or*
http://kingfish.ssp.nmfs.gov/tmcintyr/mmpahome.html

Read the complete 1972 MMPA or the 1994 reauthorized MMPA. This legislation is not easy reading.

Careers in Marine Science

http://www.rtis.com/nat/user/elsberry/marspec/mmstrat.html *or*
http://www.bev.net/education/SeaWorld/marinescience.html/mshome.html

Both Web sites offer the same information, a definition of a marine science program for budding marine biologists.

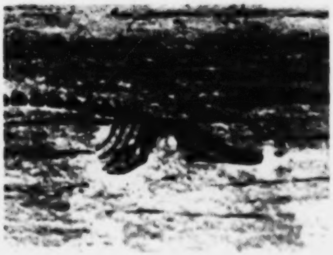
Marine Mammal Research Program

http://www.rtis.com/nat/user/elsberry/marspec/mmrp.html

This site includes a good list of objectives that could be incorporated into a unit on marine mammals. Comprehensive and sometimes complicated, it is a look at the interface between marine mammals and the fishing industry—for your more advanced students.

Charlotte, The Vermont Whale

http://www.uvm.edu/whale/whalehome.html



In 1849 the bones of a mysterious creature were found in Charlotte, Vermont. The bones were from a fossilized whale skeleton. Find information about this ancient whale at this Web site.

Teaching Resources for Teachers, Learning Resources For Students

Many ready-made lesson schemes about marine mammals are downloadable from the Net for your immediate classroom use. You and your students can find them at the following URLs:

- **Dolphin Documentary**
  http://www.bev.net/education/SeaWorld/bottlenose_dolphin/k3activitydol.html

  A K–3 one-day lesson plan about dolphins.

- **How Big Is a Blue?**
  http://www.bev.net/education/SeaWorld/baleen_whales/howbig.html

  A one-day lesson on measuring and comparing different sizes of whales.

- **Orcas**
  http://www.bev.net/education/SeaWorld/killer_whale/nowhearthis.de.html

  A K–3 lesson on the hearing capacity of Killer Whales.

- **Bottlenose Dolphin: Latin Lingo**
  http://www.bev.net/education/SeaWorld/bottlenose_dolphin/48activitydol.html

  A 4–8 lesson that explains the scientific naming of dolphins. If you are working on root words and Latin derivatives, you can use this good location.

Seals, Sea Lions and Walruses

http://www.bev.net/education/SeaWorld/Pinnipeds/introduction.html

A K–3 integrated set of lessons that weaves geography, literature, and biology of seals, sea lions, and walruses.

For more Sea World lessons about Marine Mammals see **http://www.bev.net/education/SeaWorld/teacherguides.html**.

Pick Your Critter!

Now you know what the Web can do for you as a teacher, but only on one narrow range of topics: marine mammals. The world is a zoo, and we are but a few of the critters in it. Use the search engines, adapt the learning strategies suggested here, pick your own favorite critter, and let your students pick theirs. Then, surf bravely out onto the Net to discover further information and more activities, instruction ideas, and learning strategies that suit your style of teaching and your students' inclinations. All you have to do is click on Netsearch to find home pages and whole screens full of hot links to more Webpages named *Birds*, *Ornithology*, *Domestic Animals*, *Pets*, and the like. Look at *Zoo Animals* or *African Animals* to get started by reminding yourself of how many different creatures there are. The list is so big, it will expand your imagination and challenge your curiosity just to marvel at its length. This must be what they meant when they said: "Learning is fun."

Chapter 10:

The News

It's hard for some kids to learn to plug themselves into state, national, and international current events. They do not yet grasp the immediate relevance of stuff "out there" to themselves; their sense of interpersonal connectedness to people that they do not know personally has not yet expanded; their process of moral development (Kohlberg, Piaget) may not have taken them even to the "us/them" stage, yet. Another cause of students' lack of connection with a world bigger than their own wants and needs is that the TV Network news programs do not pitch to young people. The advertisers aim at selling their products to older folk—they know who's watching. The news on PBS is all talking heads, slow-moving, and cerebral; the news on the commercial Networks is more colorful, more active, and contains more human interest, but offers little to attract the attention of anyone still in school.

So I started thinking about how to make the news less boring and get the kids better informed by including the Internet in the equation. The Internet offers action and color like a television broadcast, but—unlike TV—the Internet is not a passive medium. The Internet activates the brain rather than—like TV—dulling it. A hands-on Internetter doesn't just sit there and watch; one interacts. Young people move faster than old people do—bodies, minds, eyes, fingers. Something that moves too slowly, the young'uns label with the ubiquitous term "boring." Movement on the Internet depends on who is moving. The Internet is aimed at everyone or no one, so it's up to the individual user to make something of it that he or she wants—there's no one to blame but yourself.

Some students who are less interested in political and other typical news items might be more interested in sports news, which one can access through the numerous sports sources on the Net. I believe in trying almost anything to get my students hooked on the news, be it sports, up-to-the-minute reporting, human interest, disasters, or whatever. Current events are important, so I pull out all the stops to prove that they are interesting, and the Internet can help.

The Internet is up-to-date news that comes in real time. Online types who exploit the Internet for its news-gathering potential know that one can get information from critical situations around the world more quickly via e-mail, lists, and newsgroups than in any other way. By reading news on the Internet, I knew more details about the Kobe earthquake ten minutes after the first tremor than network news teams were broadcasting the next morning! I also saw the newly discovered cave paintings in France before *Time* published them. I can get minute-by-minute accounts of sporting events. Washington-watcher that I am, I can follow events on "the Hill" on a daily basis, read press releases from the President, read speeches given by the leading political figures of the day, and when I'm really being a glutton for punishment and politics, I can read the *Congressional Record* online. The Internet is now, and kids like that.

In class, you can use the Web to access the news on the Internet. You can use online personal news services either as stand-alone devices or in conjunction with the other media-newspapers, news magazines, radio, television, and even shortwave radio (e.g., "The Voice of America"—or you can read VOA online at **http://www.farces.com/farces/ltg-update-1.2/voice-of-america.html**) as means to plug your students into the world they live in. You can read the AP Wire at **http://www1.trib.com/NEWS/APwire.html** which gets updated every five minutes. You can make news gathering a daily part of your curriculum; you can build a news perspective into any thematic unit that you teach; you can make learning how to find the news, read the news, and understand the news a part of your instruction in learning on the Internet. Once they get hooked, you must realize, you will have created a few more news junkies, but that's the risk you run.

In Your Classroom

Flash! Kid Reporters Do the News

One way to get your students involved with the news is to have them publish their own weekly newspaper or stage their own news broadcasts. If you want them to work on reading and writing skills, set up a news publishing organization in your classroom. If you want them to work on oral communication skills, have them produce and perform news broadcasts. At the stage where they use the Internet for news-reading, news-gathering, news-understanding, and news-summarizing, the process is essentially the same, whether they will ultimately present their results through print or in person.

To set up your Internet News Bureau, brainstorm with your students what departments will be required. Local, state, national, and international news departments come to mind, as do departments for weather, sports, business, fashion, life-style, and human interest. Certainly you and they will want an editorial department, featured columnists/commentators, a personal advice columnist, and even letters to the editor from the readers.

Let your class divide itself up into teams of Internet reporters, one team for each major department. Their tasks are to find items from the various news sources on the Internet, correlate what they find with news in print and other news media, understand and interpret what they find, and then report (i.e., write) their own news stories. (Whether they will ultimately produce a newspaper or a broadcast, they still need to write copy.)

The means of publication are up to you, your students, and the technical capabilities at your disposal. You can report the news to your class through something as simple as a weekly news presentation during which each student reports to everyone else what he or she or the team has found out.

Your class could sponsor a weekly news broadcast over the school's P.A. system. If you have closed-circuit TV in your school, you could prepare a TV news program for broadcast once a week.

You could publish your class's own newspaper for distribution to school mates, parents, and neighbors. You could set up a home page on the Web, and offer yourselves, your e-mail network, and the rest of the world your class's weekly online news digest. The possibilities are endless.

Goals

To gain a better understanding of current events and their local and global impact. To get an idea of how the news is gathered and prepared for release to the public. To learn what it takes to produce a weekly newspaper or a weekly news broadcast. To learn personal, intellectual responsibility in communicating matters of import to other fellow human beings.

Rationale

Young people need to know that they are not isolated but are part of a larger sphere of interest and influence that encompasses the world. By expanding their horizons, so that they think about how local, state, national, and international events all work together to "make the world go around," your students will become more active members of their global community.

Objectives

Read news from the Internet in at least the following departments: local, state, national, international, politics, sports, business, fashion, life-style, human interest, weather. Select the best items in each department to digest and re-report in some other news media, whether a class/school newspaper or broadcast. As reporters, write the news, articles, editorials, etc., in each department. Publish the news electronically on your own home page.

Procedures

Whet your students' appetites for news by asking them what some of the events of the last week were that really caught their attention or sparked their imagination. Discuss those items and then list them on the board or overhead transparency so that they look like the headlines of a newspaper. Tell your students that for the next few weeks they are going to be daily reporters, working either to publish a weekly newspaper or present a broadcast. They will be telling the main events of the week in each of the categories listed and offering their editorial opinion on the news they are presenting. Ask students to explore the various news resources available to them—newspapers, news magazines, radio, television, and the Internet—and not to forget their own personal reporting of the local news. Have your class divide itself up according to individual interests into the several news departments.

Evaluation

The newspaper or broadcast that your students produce will be the tangible result of this learning process. (Depending on how crazy the first effort made all of you, you can decide whether or not to do it again!) In the end, look to see if your students know something about current events and whether they can carry on an interesting and informed conversation about the realities around them that effect them. Also, they will have learned something about the tricky and much-debated issues of reporters' objectivity and subjectivity, whether something is newsworthy, "sex, crime, and violence" in the media, privacy and publicity, and freedom of the press and of self-expression.

I do not take up space in this book listing the various major newspapers, news magazines, and radio and television sources. You and your kids have TVs and radios; turn them on to find out what's there; go to the newsstands to see what they offer. Neither do I take up space talking about what to do with your news, once you get it. You may decide to publish a newspaper or broadcast the news. If you do, take advantage of any number of good books, teacher's guides, and periodical literature on journalism and broadcasting that will give you ideas on how to address your publics and the technology of your chosen medium. I hope that you will decide to post your news digests to the Internet from your own home page. If you do take that route, I enter herewith my subscription to your news service:

ecotton@oavax.csuchico.edu.

Thanx!

Internet News Resources

This summer there are over thirteen hundred newspapers on the Web. Listed below are few of the many sources of news that are readily available.

Newspaper Links

- **A2Z News and Information: Daily News**

  http://a2z.lycos.com/News_and_Information/Daily_News/

  This directory links to about five hundred newspapers on the Web.

- **The University of Florida, College of Journalism and Communications**

  http://www.jou.ufl.edu/commres/webjou.htm

  With links to commercial newspapers with Web editions all over the world, this list is rich and extensive.

U.S. News on the Internet

- **CNN**

  http://www.cnn.com/

  This Web site will take you to the *CNN Newspaper*.

  http://www.nmis.org/NewsInteractive/CNN/Newsroom/contents.html

  . . . whereas this one will take you straight to the TV news room. By surfing around either of these Web sites, you will find daily newscasts with daily lesson plans, quiz items, and thought-provoking questions, all set up for teachers and students.

CNN Interactive

The Daily News Current

http://www.newscurrent.com/

A compilation of headlines from several leading U.S. newspapers make up this Web site. It's a good summary of the news that gets updated once a day at 9:00 a.m. Pacific Time.

Nando Times

http://www2.nando.net/nt/?low

This site has links to Global News, Stateside News, Sports, Politics, Business, Information Technology, Health and Science, Entertainment, Jobs/Classified Ads, and Editorials.

CRAYON

http://crayon.net/

Although it does not sound like a newspaper, it is. CRAYON is an acronym (of sorts) that stands for CReAte Your Own Newspaper. CRAYON offers supercool methods of styling your own headlines as well as links in the following categories: U.S. News, Regional and Local News, World News, Politics as Usual, Editorials and Opinions, Weather Conditions and Forecasts, Business Reports, Information and Technology Report, Arts and Entertainment, Sports Day, The Funny Pages, and New and Cool Web Sites. CRAYON is an excellent site to learn about how to make a newspaper work, a "must see" for your students, and a good jumping-off place to find out more information for each of the departments that might be included in your own newspaper.

There are many U.S. Newspapers on the Internet. You can read portions of the *San Francisco Chronicle* and *San Francisco Examiner* by going to The Gate at **http://www.sfgate.com/**. You

BEST COPY AVAILABLE

can read the *New York Times* at **http://nytimesfax.com/** (you will need Acrobat to read this newspaper, however). *USA Today* is online at **http://www.usatoday.com/**.

American Politics and More

- **Thomas** (named for Thomas Jefferson)
  http://thomas.loc.gov/

Welcome to
THOMAS
Information on the Internet

This Web site has links to the House, the Senate, the Congressional Record, the Library of Congress, and many other departments that focus on politics and American life. You can really keep your kids up-to-date on our legislative branch of government from here.

- **Politics Now**
  http://www.politicsnow.com/

POLITICS
now

Here's your online connection to what is happening in politics, with the elections, and with our government. Politics Now acquires its information from ABC News, *The Washington Post* (**http://www.washingtonpost.com/**), the *National Journal*, *Newsweek*, and the *Los Angeles Times*.

Sources of International News on the Net

- **Current World News**
  http://www.yahoo.com/headlines/international/
  Yahoo does a summary of international headlines and stories that is regularly updated.

Online Newspapers

http://www.mediainfo.com:4900/ephome/npaper/nphtm/online.htm

Editor&Publisher

With links to Africa, Asia, Oceania, Europe, Latin America, the Middle East, and the United States, I recommend using this site if you want to have a more international flavor to your news collection.

Countries and Cultures

http://www.yahoo.com/News/World/Countries_and_Cultures/

Yahoo also has links to newspapers or news agencies in eighty countries from Afghanistan to Zambia. Click on this Web site, then move to the country of interest to you.

Sports News on the Net

Sports are everywhere on the Net. Your students will find many more sites than the few I offer here.

SportsLine USA

http://www.sportsline.com/

Your reporters will have a great time surfing these pages for the latest-breaking sports news.

The World Wide Web Virtual Library

http://www.atm.ch.cam.ac.uk/sports/sports.html

A British Web site that features a built-in search engine, sports aficionados will never want to stop reading this book of electronic pages.

- **National Football League InfoWeb**

  http://www.cs.cmu.edu/afs/cs/user/vernon/www/nfl.html

  Links to every team in the NFL can be found at this Web site.

- **The Official Canadian Football League Home Page**

  http://www.CFL.ca/

  Links to every team in the CFL can be found at this Web site.

- **Baseball on the World Wide Web**

  http://www.lmcs.edu.on.ca/jp2/students/asmith/baseball

  Maintained by Adam Smith, a high school student in Ontario, Canada, this site has links of all twenty-eight North American baseball teams, with hot links to hockey, basketball, football, and international sports, as well.

- **Nando Sport Server**

  http://www2.nando.net/SportServer/

  This Web site has links to football, baseball, hockey, basketball, and other sports.

National weather service forecasts

And finally, what's a news report without a wisecracking weather person?

- **Yahoo Weathernewsy**

  http://www.wni.com/yahoo/

  Links to weather information all around the world.

USA Today Weather

http://www.usatoday.com/weather/wfront.htm

See a copy of the *USA Today* weathermap as well as forecasts for any region in the U.S.

USA TODAY
Weather
INDEX
SEARCH
WHAT'S HOT
FEEDBACK

University of Illinois, Urbana Campus

http://www.uiuc.edu/misc/weather.html

For U.S. weather maps, as well as forecasts for every state in the union, this is the Web site to visit. You will find links to the latest weather image of the U.S., current weather maps, weather movies, and a link about earthquakes.

I did not mention news magazines on the Web, because there are so many. However, check out Pathfinder at **http://pathfinder.com/welcome/** which has links to *Time,* and *People* Magazines, as well as links to sports, the stock market, travel, kidstuff, music, games, and more.

PATHFINDER
Personal Edition
WELCOME TO THE NEW PATHFINDER!
PATHFINDER
WHAT'S NEW
HELP
SEARCH
BULLETIN BOARDS
CHAT

As you and your students work with the news, you will find many more resources and locations than I have offered here. In my experience, getting kids to become news reporters is one of the best ways to get them to have fun while learning, and learn something useful while they are having fun.

Chapter 11:

Look Who's Talking!

Language and Society on the Internet: Plugged In and Turned On

The Internet is all about communication. The Internet isn't a thing out there; nobody owns it; nobody controls it; it's all over the place in general, but it's no place in particular. The Internet is people conversing with one another; and people using navigation programs and searching devices to find information. It is an international, cross-cultural society, based on the electronic communication of millions of people around the world, all talking at the same time—the greatest single conversation that has ever taken place. That's what this lesson is about.

Search engines available on the Internet are numerous, and their number and power are growing. In an earlier chapter, you were introduced to directories and search engines. Now you can put that knowledge to work and access some of those search devices, such as InfoSeek, Alta Vista, Inktomi, WebCrawler, Lycos, Yahoo, the Internet Directory, and others. By using the directories and search engines on the Web, you and your students will explore the Net on a focused search—a country and a language. The idea is to explore a country by looking at it's language, people, and geography. Because we are engaging in this "global conversation," your students might gain some insights into how we are the same, and how we are all just a little bit different from each other, too.

In Your Classroom

Communicating with the World

As you already know, every Internet lesson needs to be goal oriented. Without a goal or an outcome, the lessons will go awry. This lesson is open-ended so you can finish it anyway you like, as long as you meet the two goals:

Goals

1) Learn about a country by studying its language, geography, people, traditions, and customs. 2) Learn to use several Internet directories and search engines.

Rationale

From body language to electronic language (e-mail), whether Arabic or Zulu, human beings communicate with each other—an ideal topic for study on the Internet. By studying a country, its people, language, geography, and culture, our students will better understand human beings, and should be more prepared for the twenty-first century. As our students become knowledge seekers, they will need to know how to use many information sources, including the Internet. They need to know how to conduct targeted information searches using several media. Using directories and search engines in pursuit of knowledge about a country will give them hands-on experience that they can transfer to searches for other sources of information.

Objectives

Your students will use several directories and search engines (you determine how many) to locate information related to a country, it's language, people, and geography. They will also use more traditional sources of information. Students will communicate via e-mail with people from the country they select. This communication will enable them to find out about customs, traditions, mores, values, holidays, dress, school system, economy, politics, the flag, the map, points of interest, and what's up. They will develop a map showing neighboring countries and language to demonstrate how the "target country" is similar to, yet different from, its neighbors. Each group will collect sets of links to home pages and Web sites that relate to the country and its language. Each group will produce a product, be it a demonstration, report, or a Web site, for the purpose of sharing their new found knowledge with other class members and the people they have been communicating with via e-mail.

Procedure

Set the stage by sharing magazines written in a language other than English. Share articles, pictures, and ads. Talk about what seems to be going on. Identify the languages and countries represented. Invite speakers of languages other than English to bring newspapers, magazines, and/or books to school and page through them with the class, reading, interpreting, and commenting on language and culture.

Move to the Internet and show a few sites where the language on the screen is not English. Let you students experience the international flavor of the Internet. Keep an ongoing list of the names of various languages and their respective countries. If you want, you can put up a world map where the students locate the country of their "roots" and the language of that country.

- The Paris Pages at **http://www.paris.org/parisF.html** are written in French and English.
- Al-Nafitha is the first arabic magazine on the Internet. Check it out at **http://www.vir.com/~smh/**.

- The Catalan home page in Catalan is at **http://www.willamette.edu/~tjones/languages/Catalan/webcat4.html** and click on **http://www.willamette.edu/~tjones/languages/Catalan/webcat1.html** to see it written in English.
- A good place to start is the A2Z directory, look under language and linguistics at **http://a2z.lycos.com/The_World/Languages_and_Linguistics/**.

- An English/German dictionary at **http://www.tu-chemnitz.de/~frl/forms/dict.html** is written in German, but you can input words in English and the German equivalent appears, or vice versa.

Make the assignment: tell your students that they will be working in small groups, using Internet directories, search engines and traditional information sources to find out everything they can about one country and its language. If you have already planned for it, they can communicate via e-mail with a penpal in the target country. Encourage anyone in your class conversant in the another language to communicate in that language with contacts in the country.

Give your students the guidelines that you want them to follow. When kids—and adults too—surf the Web, there is a tendency to wander. To keep the assignment in focus, make it manageable. Give your students a clear set of directions or a rubric for them to follow. You might also consider showing them what to look for and what to avoid. In any case, each group should create a bibliography that includes links to Web sites and other print sources, demonstrating their knowledge about a country, its language, and people. Using the Internet is *new*, so lots of modeling is needed if you want your lesson to be successful. Consider information about the language (how many people speak it, written samples of the language, taped samples of the language, the language group [Indo-European?], similar words in English), and information about the country (geographic location, type of government, political leaders, flag, customs, traditions, national dress, holidays, places of interest, schooling).

Evaluation

Have student groups share their "end product" that includes a set of links with the other groups in the class. Let other groups do short test searches, using the links they offer. The proof of the pudding is in the eating. So, if other students can use a set of search results to find the same Web sites and information, they've accomplished their goal.

Getting Students Started Searching

To get them started, give your students specific instructions on how to use the various directories and search engines on the Internet. I found that the easiest way to start is using a search engine like WebCrawler at **http://webcrawler.com/**. With a search engine they can do a Boolean search for a country and a language, thus narrowing down the number of hits to something that might be manageable.

Set WebCrawler up so it gives you the first twenty-five hits and shows a summary of each hit—this way-you won't be overwhelmed with so much information you won't know what to do. By looking at the summary of each hit, you can determine if that hit will be useful to your search. You will have to model logic at this point, that is teaching your kids which hits look like the best hits using logical deduction skills—far easier said than done.

After going through some of the WebCrawler hits, you might want to use a directory like Yahoo at **http://www.yahoo.com/**. In Yahoo you will look under countries and see what evolves. Site summaries will appear when you have delved through a couple of layers of subcategories.

If your kids can practice patience, you next might want to consider a search in GopherSpace using Veronica. Veronica search engines are usually designated by a ? or binoculars or the title "Veronica Search" (see Chapter 7). Veronica is a search engine that uses key words. Follow the same process you did with WebCrawler. The difference between "Veronica" and a search engine on a browser, is how the information is returned to you. Veronica gives information back in alphabetical order and it is not rated. You still have to sort out the relevant information from the "garbage." Remind your students about bookmarks and notetaking.

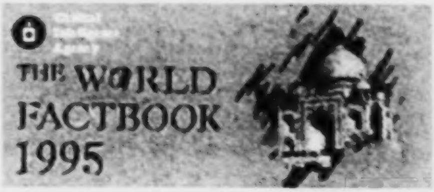
Each directory and search engine will produce a slightly different set of information, but as more information is gathered, similar links will appear over and over. The search for information is completed when you keep running into the same links on the Internet. Every time you see a link that is useful, save it with a bookmark. No bookmarks, no report!

The beauty of this lesson is that it allows groups to work on several things at once. You can have one or two groups working on the Internet, others using encyclopedias, atlases, magazines, or dictionaries. Allow groups of students regular periods to search the Internet on their country and language. It's next to impossible to spend only ten minutes online. (Have you ever spent just ten minutes on the Web?) Depending on how long you want to spend on this lesson, the information from all sources should be collected in about five to seven school days. After they have completed the searches, they will need time to develop the information to meet your requirements.

Some Good Starting Points on the Web

To help your students find information quicker, offer them some of the following Web sites. True, you want them to learn how to search the Internet, but sometimes the wheel has already been invented. In those cases, let your students make use of the "wheel."

- The Human Languages Page at **http://www.willamette.edu/~tjones/Language-Page.html** can provide you with information about just about every language in the world. Go to the bottom of the page, and click on Search. In the query box, type the language you are studying and sources will be presented to you.



- The 1995 CIA Factbook at **http://www.odci.gov/cia/publications/95fact/** has information for over 150 countries. Click on the letter that represents the first letter of your country, then read all the information that the CIA has to offer. You will find information about geography, climate, government, economy, people, language, education, and much more.
- The World Flags home page at **http://www.adfa.oz.au/CS/flg/index.html** has an "incomplete" collection of flags from countries around the world. You can also get information from the World Fact Book at this URL.

- Flags of the World at **http://155.187.10.12:80/flags/nation-flags.html** has pictures of flags from about 200 countries.
- Yahoo link to maps of the world at **http://www.yahoo.com/Science/Geography/Navigation/Maps/Regional/Countries/**. It will lead you to regional maps for many countries around the world. (These maps can be copied, but they are large files and take time to download.)
- Planet Earth Home Page at **http://www.nosc.mil/planet_earth/info.html** has information about many countries and is easy to access.
- Links to the World is at the University of Texas at Austin **http://www.utexas.edu/world/**. Click on Cities, States, and Countries to find information about your particular country.
- Country Maps of Europe at **http://www.tue.nl/europe/** offers maps as well as some history about forty-six European countries.
- Xerox PARC map viewer at **http://pubweb.parc.xerox.com/map** will make an HTML document of the map you want. Read the directions first, however, because this site is a wee bit complicated.
- Intercultural E-Mail Classroom Connections at **http://www.stolaf.edu/network/iecc/** is the link to finding penpals from around the world.

Adelante a Mexico!

I've chosen Mexico, as my country, and Spanish as the language on which to build my model lesson. If you use this lesson, plan your model lesson well, because your students will make many references to it while working on their country and language reports.

1000 km
Tijuana
Ciudad Juárez
Chihuahua
Monterrey
Matamoros
Gulf of Mexico
La Paz
Durango
Mérida
Guadala
Veracruz
MEXICO
Oaxaca
North Pacific Ocean
Acapulco

Before doing anything else, I checked the World Fact Book for 1995 (the most recent edition) at **http://www.odci.gov/cia/publications/95fact/index.html** and clicked on Mexico. This is a good starting place for just about any country you can think of.

Next, I used WebCrawler (**http://webcrawler.com/**) and did a Boolean search for Mexico and Spanish. WebCrawler found 1,350 documents and returned the first twenty-five, which I've listed below:

el cUCHitril: AntiVirus, Internet, Toons, Computers, . . .
Research Faculty and Staff
Chris' Specialty Meats
wingspread: chronology of textiles and fiber art
Cuernavaca Spanish Institute
The Ancient Maya Civilization
Mexico Schools
Hispanic Media Group
AMIGO! Publications Directory
Communication Connections
Univ of Toledo Spanish Bookmarks
The American Southwest–Annotated Bibliography
Mexican Genre Fiction
Things Latino-CyberRaza from EgoWeb-Ain't I beautiful?
History of Mazatlan
Tourism
Institute of Modern Spanish-Study Abroad Programs in . . .
The Spanish Beatles Page GuestBook
Welcome to Mexico!
UNAM Universidad Nacional Autonoma de Mexico 5048
el cUCHitril: AntiVirus, Internet, Toons, Comics, Compute . . .
CMI Centro Mexicana International 5033
ftp://ftp.halcyon.com/pub/FWDP/International/untrtstd.txt
Study Spanish in Mexico with IUSI
ftp://ftp.halcyon.com/pub/FWDP/International/untrtstd.txt

They did not look promising at first, but I scanned down the list and saw "Welcome to Mexico!" I liked the sound of it. I scrolled back up the page and clicked on the "show summaries" prompt, and read the summary for that link.

Welcome to Mexico!
Read the newsgroup soc.culture.mexican and the Frequently asked questions in soc.culture.mexican. Culture and Society of México, a well-organized site containing information about the newsgroup soc.culture.mexican. MexWeb. What's New with México WWW. List of . . .
- Score 90% - http://www.mty.itesm.mx/MexWeb/Info2/ - Find Similar Pages

Let's analyze the "hit." Its title is "Welcome to Mexico!" The next part is a blurb or summary about the Web site, then there is a score of 90%, which means it is not a direct "hit," but it definitely has something to do with Spanish and Mexico. After that is the URL, and finally, a link for similar pages on the Web. This one looks good, so I clicked on it and saw lots of information about Mexico. Welcome to México!

General Information about México

-México 1994 Facts from the CIA 94 World Factbook

-"México's Mosaic" featuring information about México

-Big Map of México (U.S. CIA)

-SRE Consulado de Mexico en Nueva York

Culture and Society
-Culture and Society of México, a well-organized site containing information about the newsgroup soc.culture.mexican
-Mexico Out of Balance
-Ejercito Zapatista de Liberacion Nacional
-Read the newsgroup soc.culture.mexican and the frequently asked questions in soc.culture.mexican
-Mexican Constitutions (Mexico and its States) [spanish]
The Mexican Presidential Cabinet [spanish]

Today in Mexico
La Jornada

Reforma
El Norte
El Nacional

Information about Mexican Cities by State
(information on Mexican cities, which I deleted here to save room)

Turistic and Transportation
Subway system of México City
Turistic Information on México by Daniel M German
Rec.Travel Library.
Currency converter by David Koblas.

WWW Servers in México
MexWeb
What's New with México WWW
List of ALL WWW Servers in México
Sensitive Map with ALL WWW Servers in México

Misc. Information and Resources
Online Library Catalogs
ITESM Monterrey's General Catalog
ITESM Monterrey's Bibliographic Catalog
UDLA-P's General Catalog

Commercial Services related to Mexico

I clicked on various links and determined this Web site had to be bookmarked.

Next I opened Yahoo at **http://www.yahoo.com/** and clicked on Countries under "Regional." A long list of country names appeared, so I scrolled down to Mexico. There were a lot of links for Mexico, so this took awhile. Here are the topics:

Cities (31)
States (311)
Indices (7)

Arts (1)
Business (107)
Education (92)
Entertainment (3)
Maps (1)
Media (19)
News (9)
Organizations (11)

Environment and Nature (4)
Events (2)
Government (19)
Health (2)
Internet Services (51)
Libraries (1)
Lodging (4)
Outdoors (8)
People (1)
Politics (14)
Real Estate (13)
Society and Culture (42)
Sports (6)
Travel (15)

My main search has two central topics: information on the country and information on the language. Given those parameters, I wanted a general set of links, so I checked the indices. There are two indices, Mexico's Index at **http://www.trace-sc.com/** and the WebDirectory of Mexico at **http://www.mexonline.com/websites.htm**. Both of these looked promising, so I bookmarked them and searched some more.

Next, in Yahoo, I typed in Spanish in the query box and a long list of Spanish related Web sites appeared. I knew I was on the right track because there were lots of locations for learning Spanish. Here are a couple that seemed good.

Basic Spanish for the Virtual Student

http://www.umr.edu/~amigos/Virtual/

Fundamentals of Spanish are introduced in fifty+ brief modules.

Elementary Spanish Curriculum

http://www.veen.com/Veen/Leslie/Curriculum/

Prepare students to compete and cooperate in the international arena; to promote multi-cultural understanding; and to build intellectual achievement.

Another search engine to look at is The Planet Earth Home Page at **http://www.nosc.mil/planet_earth/info.html**. On the query line type Mexico and hit return. The second item on the list is on the Country of Mexico at **http://www.nosc.mil/planet_earth/countries/Mexico.html?Mexico#first_hit**. I get the following results . . .

PLANET EARTH HOME PAGE
NORTH AMERICA
COUNTRY OF MEXICO
18 DECEMBER 1995

NATIONAL FLAG

CONTENTS - Twelve Links To Get You Started

01. Mexico - The World Factbook
02. Mexico - Map With WWW Servers in Mexico
03. Mexico - Online
04. Mexico - Welcome to Mexico
05. Mexico - AMIGO! Mexico Web Center
06. Mexico - Culture and Society
07. Mexico - City Net
08. Mexico - Yahoo
09. Mexico - GORP
10. Mexico - CUI W3 Catalog
11. Mexico - List of Sites
12. Mexico - Time

My search came to an end when I started seeing repeats. From this information, I was able to determine the best Web sites to learn more about the country and more about the language and people. The Internet information coupled with the information found in traditional print resources should then be collated.

As you can tell, this challenging project will take time and energy. In the end, your students will have a greater understanding of a country, a language, and the capabilities of the directories and search engines on the Internet. Start the assignment with care and move slowly as it will take time and nurturing for your students to find what they need on the Internet.

Chapter 12:

Virtually Together in D.C.

In elementary, middle, and high schools, students in the U.S. study American government. Many schools sponsor trips to Washington, D.C. every year for selected fifth-graders, eighth-graders, and eleventh-graders. Before your students take the actual trip to Washington, D.C., however, I suggest that you and they go on a *virtual* tour of the city ahead of time.

The Internet sources that make a virtual trip possible will also make Washington more interesting when your students actually arrive there. The following electronic tour guide to D.C. will not only prepare the lucky ones who get to go on the trip across physical geography, but it will also let the less lucky stay-at-homes know what they are missing by not getting to visit the capital city.

In Your Classroom

A Virtual Tour of Washington, D.C.

The first time I visited Washington, D.C., I made a startling discovery: The White House and the Capitol are two different buildings in two different locations. What a surprise! In my mind, somehow, despite all those news broadcasts talking about what the President had said at "the White House" as opposed to what Congress had done "on the Hill," the two had coalesced in my mind. Fortunately for American government and us the people, the checks-and-balances system is better defined in the Constitution than it was in the ill-informed geography of this kid's mind!

With this lesson, you can familiarize your students with the map of Washington, D.C., as well as with the significance of many of the beautiful buildings, monuments, and other landmarks that make Washington the living, open history book of America.

Goal

To give students a better understanding of the geographic layout and historically specific composition of our nation's capital, Washington, D.C., by taking a virtual tour of the Federal Area and other points of interest. To help them understand government better by understanding the real-estate of government. To get them ready and eager to go to Washington.

Rationale

Washington, D.C., is the seat of the American national government. When students know the lay of the land and the significance of the various official edifices, they tend to develop a better understanding of our country, our government, and our representative democracy. Beginning with this geography of government, they can move on to learn more about how our government works.

Objectives

Internet: Take a virtual tour of the Federal Area of the nation's capital using your Web browser. Cartography: Locate Washington, D.C., on a map of the U.S. Show where the White House, the

Capitol (where the Congress meets), and the Supreme Court are located. Determine and map the best route to the Smithsonian Institution from a starting point at National Airport. Determine ten places that seem important to visit in Washington, D.C. Draw a personal tour-map of Washington, D.C., describing the tour that the cartographer would like to take.

Historic meaning: Take a virtual tour of points of interest in the city, including the White House, the Supreme Court, the Congress, the Smithsonian Institution, the Treasury, the Library of Congress, and other important institutions in the city. Discover the significance of the Lincoln Monument, the Washington Monument, the Jefferson Memorial, the Vietnam Memorial, and other monuments and memorials in the city. Explain the differences in each of these public edifices, what they stand for, what takes place at each site, and their meaning for America. Select three or five or more "most significant" points/monuments/buildings in the city and tell and write about their historical significance for the nation and the individual. Design a new monument for the District of Columbia, stating its significance: "Using your map and the computer, take your friends on your virtual tour of Washington, D.C., including a visit to the monument that you designed."

Procedures

Set the stage by telling your class that they are going on a trip to Washington, D.C. Say that this trip will be a virtual tour, but that it will prepare them for an actual tour, some day. Give them some background about the nation's capital city. This project may take a lot of preparation time, especially if you are going to escort your students on an actual trip to the Capital. Take this virtual tour before you start down the path to gathering travel brochures, maps, tour guides, and the expensive proposition of making overnight reservations. From the virtual tour, you will have more knowledge of what you are going to be doing and seeing so you can use your time and money efficiently.

Evaluation

By the end of the virtual tour of Washington, D.C., your students will be familiar with the important buildings and monuments in the city. They need to have an idea not only about historic monuments but also about the Metro System and how to use it. Expect your students to be able to describe the various monuments and tell their significance as well as to describe some of the exhibits at the Library of Congress and the Smithsonian. Resourceful students with an interest in gardening may even be able to tell something about the national arboretum; students with an eye for art will be able to describe the National Gallery; and, properly challenged, other students will find other sites of special interest to themselves. One of your goals is to excite your students with a virtual visit to Washington so that they will develop a clear idea of what sites they most would like to see during an actual visit in D.C. If they have fun surfing the virtual D.C., they will learn more about it than they would do, were it to seem like mere duty or "just another lesson."

Getting Started in D.C.

Discover Washington, D.C.

http://www.proxima.com/dc/

Here's a good place to start with links to museums, monuments, memorials, places to stay, transportation, and more.

National Capital Parks

http://www.nps.gov/nacc/

The place to go for links to the Washington Monument, Lincoln Memorial, Jefferson Memorial, and Vietnam Veteran's Memorial, among other important National Park sites in Washington, D.C.

The Washington D.C. Fun and Recreation Home Page

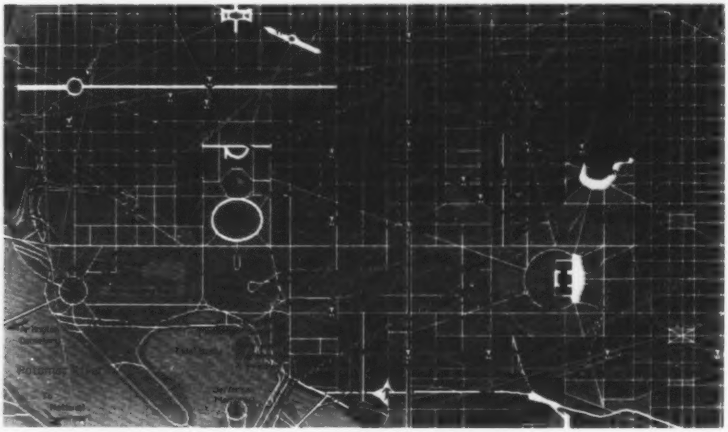
http://www.his.com/~matson/

You can click to more than thirty links on having fun in the Nation's Capital.

Clickable Map of Washington, D.C.

http://sc94.ameslab.gov:80/TOUR/tour.html

This small (37K), and accurate, map of the Federal Area provides a general idea of the location of everything you are going to visit.



Travel on the Metro System in D.C.

http://metro.jussieu.fr:10001/bin/select/english/usa/washington

Although it includes the location of stations and travel times between stations, you'll need a map of the city for the information at this site to make sense. (I've lived in D.C. and it does make sense, but not without additional information.)

Cheap and Safe D.C.

http://www.cais.com/npacheco/dc/dcfree.html

This slightly sarcastic visitor's guide on the Web is both tongue-in-cheek and informative. (I couldn't resist!)

BEST COPY AVAILABLE

The President's House

- **The White House**

  http://www.whitehouse.gov

  A trip to Washington, D.C., means a visit to the White House. At the virtual White House are links for the President and Vice President, an Interactive Citizens' Handbook, White House History and Tours, Past Presidents and First Families, Art in the President's House and Tours, The Virtual Library, The Briefing Room, and the White House for Kids. I particularly like the links for Kids and Past Presidents.

- **Old Executive Office Building**

  http://www.whitehouse.gov/WH/Tours/OEOB/

  The building where the office of the Vice President is located also has historical interest as it was built for the State, War, and Navy Departments in the 1880s. See the Presidential Library and the Indian Treaty Room.

- **The White House Collection of American Crafts**

  http://www.nmaa.si.edu/whc/whcpretourintro.html

  American crafts made from ceramic, wood, fiber, metal, and glass are displayed at this Web site.

- **The Department of Defense**

  http://www.dtic.dla.mil/defenselink/

  The Web site with links to each branch of the military and the Pentagon, as well as to daily news briefings from the Secretary of the Department.

The Congress

The other unavoidable house to visit is the one with the big dome up on Capitol Hill, the United States Congress. Before planning an actual visit to Washington, D.C., e-mail your Senators and Representatives and tell them the dates you will be in the city. Congressional staff members will respond via snailmail with tickets to the House or Senate galleries and maybe even tickets for an actual White House tour. *The House of Representatives* at **http://www.house.gov/** and *The Senate* at **http://www.senate.gov/** can be reached directly on the Internet, too.

● ***Thomas*** (named for Thomas Jefferson)

http://thomas.loc.gov

This is the best source for everything about the Senate and House of Representatives, the Congressional Record, and important speeches from the last two congresses, as well as information on how the legislative branch of government works. I've already mentioned Thomas in Chapter 10, but it's well worth another mention in a chapter on D.C., and it's worth a bookmark, too. *CapWeb* is another guide to the U.S. Congress: **http://policy.net/capweb/congress.html**.

● **Other Departments of Government**

http://www.law.vill.edu/Fed-Agency/fedweb.exec.html#feddept

Links to all the Cabinet level agencies in the government.

Other Sources of Government Information

Other Sources of Government Information

http://www.senate.gov/other/gov_other.html

The United States Senate

Washington is much more than the President and the Congress, click here to find out about the other branches of government.

The Treasury Department

http://www.ustreas.gov/treasury/homepage.html

Find out all there is to know about the Treasury Department, and you can link to a picture of the newly redesigned $100 bill (**http://www.ustreas.gov/treasury/whatsnew/newcur/**).

The Federal Bureau of Investigation

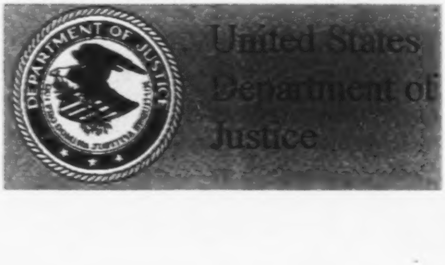
http://www.fbi.gov/

Among other things, find out about job opportunities with the FBI and the ten most wanted list.

The Department of Justice

http://www.usdoj.gov/

Besides meeting the Attorney General, there's much more to do at this site. It is a mirror site with links to other federal government departments, including the Departments of Agriculture, Commerce, Defense, Education, Energy, Health and Human Services, HUD, Interior, State, Transportation, Veteran Affairs, and Education. Go directly to **http://www.usdoj.gov/otherlink.html** for this set of links to almost every department of government.


United States Department of Justice

FedWorld

http://www.fedworld.gov:80/

A list of links to other governmental departments including the IRS, Library of Congress, and the Smithsonian.

Museums and Such

The cultural life of Washington is rich—museums, scientific institutions, art galleries, libraries, and more. D.C. is a showplace to the world of the best that America has to offer.

The Library of Congress

http://www.loc.gov/

The Library of Congress

Take a virtual tour of the Library of Congress to view online exhibits, such as the *American Special Collections at the Library of Congress* (**http://lcweb.loc.gov/spcoll/full.html**) and The Library of Congress Cultural Exhibits (**http://lcweb.loc.gov/homepage/events.html**).

The Smithsonian Institution

http://www.si.edu/

Follow the links to find out information about each of the various museums that make up the Smithsonian Institution. The *Natural History Museum* is one of my favorites: **http://nmnhwww.si.edu/nmnhweb.html**.

You can also visit the *Air and Space Museum* at **http://www.nasm.edu/** or the *National Zoo* at **http://www.si.edu/organiza/museums/zoo/homepage/nzphome.htm**. There is always a lot to see at the Smithsonian, just ask anyone who has visited it lately.

The Smithsonian Gem and Mineral Collection

http://galaxy.einet.net/images/gems/gems-icons.html

There are links to many famous and infamous jewels and gems, including the Hope Diamond (**http://galaxy.einet.net/images/gems/hope.gif**), a magnificent 7,000 carat quartz egg (**http://galaxy.einet.net/images/gems/quartz.gif**), and samples of gold, opals, and other valuable and beautiful gems and minerals.

The first chapter of a book on Abraham Lincoln can be found at **http://dab.psi.Net/ChapterOne/children/browse/lincoln.html**,while his Gettysburg Address is at **http://lcweb.loc.gov/exhibits/G.Address/ga.html**. You can read the papers of George Washington at **http://www.virginia.edu/~gwpapers/home.html**. The text of the Declaration of Independence is at **gopher://gopher.house.gov:70/OF-1%3A215%3ADeclaration.txt**

You and your students will find many more Internet sites on Washington, D.C. than I have provided. Web surfing is fast becoming a standard activity of people engaged in serious lifelong learning, so expect more sites each time you teach this lesson. To go along with what you can discover via the Internet, use other electronic library resources that are available, such as Encarta, a CD-ROM program with a lot of great information about Washington, D.C.

What It Means to Me

For a culminating activity, have each of your students, either individually or in groups, select the three or five or more (a number suitable to you and to them) "favorite places" they want to visit in Washington, D.C. Have them design a quick virtual tour for their classmates, showing and explaining the places they want to visit, and telling why those places are significant to them and to the country. If each group in your class selects three different sites, they will have organized a thorough virtual tour of the city that will get them all ready for the actual tour-to-come.

For a thought-provoking, meaningful capstone on this project, propose that each student design his or her own D.C. monument, draw a sketch of it, and be ready to explain the following to the class: what it would look like, what it is, where it would be in D.C., and what it means. The results of this exercise might make an interesting contribution to the Web via your class home page (see Chapter 5): "Our Class's New and Improved Washington, D.C."

Other Tours

After your students have taken a virtual tour of the Capital, they will be ready to learn more about the workings of the American government. You can develop that lesson yourself by using a search engine, with a few of the following key words: government, legislative branch, executive branch, judicial branch, senate hearings, government documents, declaration of independence, constitution, amendments.

If you and your students would like to take a virtual tour of another city, state, or country, click on **http://www.dreamscape.com/frankvad/world.html** for *Virtual World Tours*. To design virtual tours of other cities, you, too, can make up a tour of the city of your choice by using directories and search engines that are accessible from your browser. A virtual tour of your hometown can be a challenging class project and would look great on your class home page (see Chapter 5). "The world is your oyster," as the saying goes, and you now have it and many of its cities caught in your Net.

Chapter 13:

The Games People Play

Here it is—computer games on the Internet! Just what you've been waiting for! You were probably thinking that your kids spend too much time playing video games, and that if they would only invest some of that time on studying, they would corner the market of electronic knowledge.

Face it! Kids play. In fact, play is kids' work, so why not show them some good, clean, healthy electronic playgrounds on the Net! That, alas, is easier said than done. All kinds of games on the Internet are available to everyone, so even games that may at first blush look like they're OK for kids, will eventually cause a lot of blushing. The Internet is the world, and, as the saying goes, "it takes all kinds." There are some very adult players playing some very adult games on the Net.

As with video games at the mall, some of the games on the Net are barbarously violent and gory, some are too sexually explicit, some are filled with language that is too profane for the classroom. A few sites rely on gambling skills: you can play a virtual slot machine, poker, and blackjack on the Net. You can also test your knowledge of beer trivia and take a short course in wine savvy.

If you do not want your kids visiting these inappropriate Web sites, then you will not want to put a general games list in your bookmark collection. You will want to be more selective, steering the kids away from the games of which you disapprove by steering them toward the games that you do approve.

Our role, as teachers, is threefold: (1) establish standards that you think are appropriate for your classroom (and school and community), (2) check out the Internet sites to make sure that they meet your standards, and (3) uphold your standards with your kids, engaging them in whatever discussion is necessary and helpful to cause them to understand your point of view and assist them in learning to discriminate the appropriate from the inappropriate.

This might be time to remind you about your Acceptable Use Policy or AUP. We talked about them in Chapter 3. Remember what was agreed upon in your AUP and enforce it. In addition, some Internet servers have blocking programs. If this is important to you and your school, then by all means check out an Internet server that tries to keep your Web sites appropriate for access by kids.

While games might not be what you want your students to do, they can learn several things by working with games. First and foremost is how to download and decompress files. Most games are large, so they have been compressed and placed at FTP sites. Thus, if your students download a game, they get practice at using FTP procedures. They also get practice at decompressing programs, checking them out for viruses, installing the programs on a hard drive, and then deciphering the game. These are good skills that can be transferred to other types of files and programs.

Then, there is the issue of "multiple intelligences." According to Howard Gardner, among the seven "frames of mind" are the logical-mathematical and the bodily-kinesthetic, and both of these intelligences love games, mind games and physical games, respectively. Just because something on the Web or in school isn't about reading, writing, and arithmetic, does not mean that it is not educational or that it is not essential to the development of one of the frames of mind hard-wired in our brains. The "literate frame of mind" is neither the only nor the most important intelligence.

Enough said. Let's go ahead and look at a general games list so that you can be knowledgeable about what's out there. Then you can glean from the general list the games you think will be interesting for your class and build your own selected games list for availability to your class on your bookmark collection. I've listed a few general game sites that you might want to look at.

Many Games

The "Games Domain" is a large games site on the Web. Check it out at URL **http://www.gamesdomain.com/**. This list has regular updates with links to games on the Web as well as games that can be downloaded. There is a list of FTP sites for freeware and shareware games for all types of computers (Macintosh, PC, Unix, Amiga, etc.). To get a look at the FTP sites, you might want to view this list.

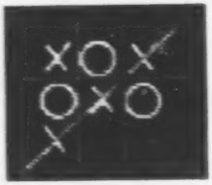
Along that same line, there's Jumbo at **http://www.jumbo.com/**. Here you can get games for just about any computer platform, and the list seems to go on forever.

For a pretty good list of links, check out Yahooligans at **http://www.yahooligans.com/**, and click on Computer/Games. A list with more than twenty-five links will be the next thing you see on your monitor. Yahooligans is Yahoo for kids. The links have been selected, so there might be some mechanism to keep them kid-oriented. None of these general game sites are for the faint of heart—there are lots of blood, guts, gore, and violence attached to some of these games.

People are serious about games, because there are lots of them on the Internet. Another general list of games (both downloadable and online) is Happy Puppy at **http://happypuppy.com/games/**.

In addition to Web sites where you can download games, there are Web sites where you can actually play games online. I personally feel this is a use of expensive Web time that has to be completely justified. Now, after I say that, as I was checking out game sites, I got completely lost in a game of Webtris, so be careful. These sites can be dangerous eaters of time. I like Tetris. It teaches spatial awareness, the knack we need for the creative cramming of stuff in drawers and small refrigerators and moving vans. When my nephew moved to a new apartment, he said that Tetris had really helped him pack the trailer because he could visualize better how the chairs looked, turned upside down and backwards. If you want to get lost in Webtris (a Web version of Tetris), go to this

URL in the United Kingdom: **http://www.blueberry.co.uk**. You will notice that this leads to "Gid's Games" where many of the games are Web interactive. That means, several people can log on to a game at the same time, and play it. You never really know if you have control of the board which makes trying to figure out strategy difficult. Other games at this site include The Logic Board (like Mastermind), Flipper, SOL, The Cube (Rubic's Cube, that is), and one called Berries.



For a nice easy game of Tic-Tac-Toe, visit this URL: **http://llnex.com/˜donham/ttt.html**. There are three modes of play: very easy, easy, and hard. You can choose to be either the X or the O. This is an excellent game of strategy and sportsmanship, and your kids do have to think to make T-T-T work. A more difficult version of Tic-Tac-Toe is the three-dimensional variety, which you can find at **http://www.hepl.phys.nagoya-u.ac.jp/cgi-bin/3dttt**. This address offers no directions for getting the game to start, but it's easy: point and click, and it will go; then wait for the computer to make a move, and then point and click again. The X's and O's will appear magically on the screen before you. The game keeps a winner's list of the people who have been successful.

Boston College has an Interactive Games site on their Web page. The URL for the page is **http://www.bu.edu/Games/games.html**. At this site you can play several logic games that pit you against a computer. The computer usually wins. The Peg Game, Tic-Tac-Toe, Minesweeper, Hunt the Wumpus, and 9 Puzzle are non-Java games. They also have Java versions of Battleship and 9 Puzzle. The Java games are faster than the non-Java games, but you must have a browser that supports it. That means Netscape 3.xx or Internet Explorer 3.x.

Another strategy game is Battleship (this one is non-Java), which can be played on the Net if you have good graphics. If not, it takes too long to load the images. I'm not clear why someone would bother to play this game on the Net, for it is so easily played using a 10x10 graph paper grid. Anyway, find Battleship at **http://csugrad.cs.vt.edu/htbin/battleship**.

Chess games abound on the Internet. I recommend you do a search with the Lycos Search Engine. In the query box type "chess" and you will see a ton of Web sites. I wish I could give you more information about which site is the best, but this is one game I've never been able to get into. This is one of my many shortcomings. What can I say.

If you want to download games for uploading to your own or the class computer, bear in mind my warnings. The sites are busy. They contain a lot of games you might not wish your students to play. When you find something offensive, don't blame me: my advice is the old saying, "Pick the roses and leave the thorns."

Jokes and other funnies exist on Web pages and GopherSpace. If you like spoonerisms, there's Drindercella at **http://www.anders.com/grampy/drindercella.html**. Finally there are a number of comic book characters that have home pages. Using Yahooligans, you'll find the following comics on the Web at URL **http://www.yahooligans.com/The_Scoop/Comics**.

Calvin & Hobbes
  Jumpstation, The - Directory of Calvin & Hobbes Web sites

Comic Strip: Access Various Comics

The Far Side by Gary Larson

Hometown Heroids - Comic strip about an out-of-work superhero

Incredibly Complete Tick Links Page

Marmaduke

Peanuts: Snoopy's Dog House

Philadelphia Online Comics—Create your own comics page!

The Net is full of games, but you can also devise your own games using the resources on the Net. You can develop games for your class to play based on television shows such as *Jeopardy!* or *Wheel of Fortune*. You can develop games based on popular board games such as *Trivial Pursuit* or *Monopoly*. You can also invent computer-aided games based on tried-and-true classroom games that have been used for eons.

For example, play "Web Page 20 Questions." You want a big Web site with links to lots of other pages. Luckily these big pages are available on just about any subject area you can think of and a few are listed in other chapters of this book.

Use your browser to find megapages in your subject area or field of interest. You can do an InfoSeek Search for "Bosnia" and come up with ten homepages that might be of interest. Select the one you think is best for your purposes.

"Web Page 20 Questions" has two parts: first, the player has to find the right Web site, and second, the player has to answer the twenty questions by linking from the Web page to another. Here's a "Web Page 20 Questions" that I developed that you might want to use as a model.

Web Page 20 Questions—"Cats"

A. Find a Cat Page that shows breeds. (**http://www.csd.net/~abyman/breed.html** or **http://www.cfainc.org/cfa/breeds.html** are two good places for Cat Information)

B. Answer these twenty questions and tasks:

1. What is another name for an Angora cat?
2. What type of cat has no fur?
3. What type of cat is Socks?
4. When is a cat given the title GC?
5. Why do people like cats?
6. How old should a cat be to be adopted?
7. How much does it cost to subscribe to the Cat Fanciers mailing list?
8. How many common cat colors are there? List them.
9. Compare a Japanese Bobtail to a Manx.
10. How is a Colorpoint Cat different from a Siamese Cat?
11. Describe Balinese cats.
12. Draw a cat.
13. Judge the coolest cat and explain why?
14. You're a dictionary writer. Give four definitions of cat from serious to funny.
15. List five properties of a Manx cat.
16. Write a poem about a pet cat.
17. Create a new reason for having a cat.
18. If your cat was pink, how would it react on a rainy day?
19. Describe how a cat might access the Internet.
20. You want to give a kitten to someone special. How would you wrap it up?

Answers to most of these questions can be found at that one location with a bit of surfing. Questions 16-20 use imagination—I think you can see the value of this type of game. Kids are on a scavenger hunt looking for specific information, while skimming and scanning a complete Web site. It's a very painless way to learn.

The first time, you can model questions devising this game for your students, making it as easy or as hard as is advisable for the age of your students and their degree of ability at surfing the Web. Then, students in teams can make up games for one another, and the teams can play against one another, each trying to make their game harder than the others. That way, they learn both when they are inventing the game and when they play it. Keep score however you think is best. Below are some interesting big Web sites that would make great "Web Page 20 Questions" game starters:

- **Castles on the Web**
  http://fox.nstn.ca/~tmonk/castle/castle.html

Castles
On
The
Web

- **The Maya Astronomy Page**
  http://www.astro.uva.nl/michielb/maya/astro.html
- **The Sun Page**
  http://www.hao.ucar.edu/public/education/education.html#additional.haoh_edu
- **Dino-Sauria OnLine**
  http://www.dinosauria.com/

DINOSAURIA
ON-LINE

A simpler, easier computer-aided game that you can play with your students using the Internet is "Hunt and Peck." Download a short story or poem from the Net (or require the game-player to download the file), put it in a file with a number of questions about the text, and require that the game-player answer each question. For this purpose, you can find short stories and other pieces on the Net at several URLs.

I've always loved the imagery in "Jabberwocky," by Lewis Carroll. The wonderfully nonsensical poem can be found on the Web at this URL: **http://pubweb.parc.xerox.com/hypertext/whimsy/jabberwocky.html** or **http://www.pobox.com/~keithlim/jabberwocky/** for the Jabberwocky Variations Web site. I actually like the variations site a little bit better as it has translations of the poem in a zillion languages, plus parodies that are a good springboard to other lessons you can develop from the original. Here is a game of "Hunt and Peck" that I devised for "Jabberwocky":

Hunt and Peck: Jabberwocky on the Web

A. Find "Jabberwocky," by Lewis Carroll, on the Web.
B. Download the poem and put it in the file with the questions and tasks below.

1. Draw a Jabberwock.
2. Create a new action word for the Jabberwock to do. Define the word and draw a picture of the Jabberwock doing it.
3. Describe slivvy. Why would you want one? Argue your case.
4. Pick out another word in the poem. Define it. Why would you not want one? Argue your case.
5. Why should you beware the bandersnatch? What will happen if you are not cautious of one?

Games and jokes should have a place in your online classroom! They serve more purposes than diversion or comic relief or relaxation or reward. Games teach us to be logical and precise and strategic in our thinking. Because many (not all!) of your kids enjoy games, they will learn a lot as they devise their own games. Games can serve to reinforce skills and knowledge that you have been teaching. Maybe that's the best part—the kids learn, have fun while they're doing it, and don't even notice that they are learning. That's winning the best game of all, the Teacher Game!

Chapter 14:

The ABCs of the Internet

A is for Archie, B is for Browser, C is for Computer . . . . Alphabet books are among the first texts that little people read, yet they are developed by big people. The idea behind this lesson is for older kids to use the Internet to make an alphabet book for younger kids, and not one based on computer jargon, either.

The topic can be about just anything, so long as it's broad enough to offer words a plenty to use up the alphabet. An easy ABC book would be on animals. The older kids would already be inclined to start with Aardvark and end with Zebra. The challenge to them would be finding information about these critters on the Web. Once they had finished their work, you could arrange for a cross-grade peer collaboration between, say, your fifth-graders and the third-graders down the hall. Sit a couple of older kids and a couple of younger kids in front of the same computer. Let the older kids show the younger kids their bestiary ABeCeDarium. Then let older kids and younger kids surf the Web together in search of a zoo-full of more animals. The fifth-graders could teach the third-graders how to browse, and the third-graders could demonstrate that they already know how to do that, and more. Below I offer a few suggestions to start a quick study on animals in alphabetical order.

WebCrawler Search for Critters

A is for Afghan
B is for Boxer
C is for Collie
D is for Dalmatian . . .

ABC books are easy to think about because they deal with topics we tend to know about already. I want to focus on a topic that might be more difficult, about a subject less familiar: let's make an Online ABC Book of Canada.

We study Canada, our neighbor to the north, during both middle school and high school years. But American study of Canada tends to be inadequate, at best. Most Canadians with a high-school education know infinitely more about the U.S. than Americans know about Canada. Most Americans don't know, for example, that "we" attempted to conquer and annex Canada in 1812, but failed, being beaten back by the Canadians at the Battle of Queenstown Heights. Canadians, you may be sure, know this! And this is only the beginning of "Yank" (as the Canadians call Americans) ignorance about "the True North" (as some Canadians call themselves). After typically inadequate study of Canada by American school kids, "we" still often don't know that Canada is the largest country (in terms of land mass) in the world, yet has a total population smaller than that of California. Most of us don't know that Canada is divided into provinces and territories, or what their names are. Most of us don't know that the U.S. and Canada share one of the longest open, unguarded borders in the world. Only the American tourist to Canada finds out that Canada does not have a dollar bill but a dollar coin, nicknamed "the Loonie." If your kids do not yet know this kind of information about our magnificent northern friends and relatives (or about French-speaking Quebec, the many Canadian native North Americans, the recent migration to Canada of Ukrainians and Hong Kong Chinese, and several other nationalities that go to make up the complex and delightful Canadian national and ethnic mosaic—Canadians speak about a "mosaic" in preference to the American metaphor of a "melting pot"), then it's time to get them cooking on the Web to find out about Canada.

In Your Classroom

The ABC Book of Canada

Goal

To gain a better understanding of Canadians, their land, geography, and government; their culture, history, and ethnic heritage; and their thoughts and feelings about Yanks. To begin the assembly of a body of information so that students can compare American culture with another culture that is enough like ours to make the comparison interesting, and enough different from ours to cause us to reflect on why we are what we are and they are what they are.

Rationale

The Land of the Maple Leaf is America's largest and most important trading partner. One of the two official languages of Canada is English; this means that Americans can speak their own tongue and be understood almost anywhere they go in Canada. Canada is the country to which Americans are most likely to travel and to which they can travel more easily than any other foreign country—if Canada is "foreign." Part of the fun of studying Canada is finding out the ways in which they are "just like us" and the ways in which they are "really different." Because Canada is part of the course of study in U.S. schools, let's use the Internet to help us do a good job of finding out about our cousins to the north. Surf the Web and take a Canadian vacation without leaving home.

Objectives

Gather information about Canada from all kinds of sources on the Internet for comparison with knowledge about Canada gained elsewhere. Choose the best articles, pictures, databases, lists, newsgroups, maps, and other sources about Canada. Write an ABC book on Canada (at whatever level of sophistication the individual student is able to work), one that can be shared with kids from a lower grade or retained for use by a subsequent class. The ABC Book should include maps, charts, flags, pictures, and text.

Procedures

Set the stage by reading an ABC book to your class and letting them talk about the ABC books that they had "back when they were children." Hold a discussion about the elements of an ABC book. Propose making an ABC book that can be shared with another class. Talk about Canada, activating your students' prior knowledge about Canada and proposing that Canada be the topic of the ABC book. Using the suggestions below, as well as whatever your students themselves find on their own, explore the Internet for information about Canada, relating this to any other information about Canada available from any other sources.

Because there is *so much* out there on the Internet about Canada, an important part of this lesson taught with the Internet will be learning to discriminate among sources: avoiding redundancy; selecting better sources in preference to worse ones (plucking the roses and leaving the thorns); and finding specific, desired information. The Internet represents a major attack of information indigestion—we are all overwhelmed by it, like having eaten Thanksgiving dinner, Christmas dinner, and a New Year's Eve banquet all at once. Information management vis-à-vis the Internet is a whole new skill and is becoming a whole new profession.

Suggest that your students use the strategies in Chapter 8 to find keypals in Canada. These direct connections with live Canadians will be one excellent way to test firsthand the archival information that your students discover on databases. Because most Canadians speak English, an e-mail connection with Canadians is easy. Because many Canadians are particularly witty—and they do love a pun—e-mail correspondence with them will be great fun.

You may want to divide your class into several groups, each group working on a different type of alphabet book. You may also want the groups to be responsible for a segment of the alphabet, such as A–E, F–J, K–O, P–T, U–Z. (Because A–E is inherently easier than U–Z, you might want to mix the letters up: Group 1—A, F, K, P, U; Group 2—B, G, L, Q, V; Group 3—C, H, M, R, W; Group 4—D, I, N, S, Z; and Group 5—E, J, O, T, Y, Z.) When the Internet work has been completed, and the ABC Book of Canada is ready for publication—whether in hard copy or online—partner your class with a class at a lower grade level so that your students may share their information about Canada with the younger kids and, at the same time, teach them something about the Internet. Before the cross-grade collaboration, give your students some guidance in what to expect from the younger kids, how to relate to them, how to show them the book, how to let them enjoy the book, and how to explore the Internet with the little kids, allowing the younger ones to have their hands on the keyboard. This may be your students' first lesson in teaching; the teacher's job is not to show off, but to facilitate the learning of the student and the learner's joy in finding out and knowing.

Evaluation

Compiling the several groups' work, your class can produce its full ABC Book of Canada for sharing with another class. The process of bringing the various parts and pieces together can become a beneficial formative assessment as each group and individual students evaluate their own and one another's work in relation to one another and the whole. Decisions will have to be made about what to include and exclude, balance, style, focus, look, feel, and the specifics of typography and book production. You can make this book as simple or complex as you and your students like, and it can take whatever physical form you choose—certainly a computer file, but also a printed-out, hard-copy edition with pictures, graphs, charts, prose, facts, maps, stories, and whatever else your students want to include. One major proof of the pudding will be in how well your class project goes over with students' younger partners, the kids in the class down the hall. The standard of assessment and evaluation during this phase needs to be the reception and enjoyment of your class ABC Book of Canada—another point for your students to keep in mind as they produce their book is the audience. After the cross-grade collaboration, engage your students in a discussion of how it went with the little guys. Remind your students of the points you will have made in preparing them to work with the younger class (see "Procedures" above), and use those suggestions, now, as a check list against which to evaluate the collaborative experience. This evaluation will be a self-assessment conducted by your students of their own work with the younger students.

How to Visit Canada via the Internet

- **Yahoo: Canada**

  http://www.yahoo.ca/

  Yahoo has its own Web Site in Canada. From this directory you can find information on each province and territory. This is probably the first site to visit to get an idea of the scope of information that is available about Canada.

- **Map of Canada**

  http://www.lib.utexas.edu/Libs/PCL/Map_collection/americas/Canada.GIF

  Get a feel for the size of the country by looking at this color map.

- **The Flags and Arms of Canada**

  http://www.cs.cmu.edu/afs/cs.cmu.edu/user/clamen/misc/Canadiana/CA-Flags.html

  Get a look at the flags and coat of arms for each province and territory.

- **Provincial and Territorial Sources of Information**

  http://www.droit.umontreal.ca/opengov/provinces.html

  Click on the flag of a province or territory to find out more information about it (a colorful Web site in English or French).

- **Federal Links**

  http://canada.gc.ca/depts/major/depind_e.html

  An alphabetical listing of links to every department in Canadian government.

CIA Fact Book of Canada

http://www.odci.gov/cia/publications/95fact/ca.html

A text-only link that tells you about the geography, economy, people, and everything else about Canada.

Canadiana: The Canada Resource Page

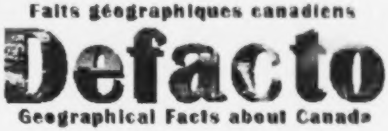
http://www.cs.cmu.edu/afs/cs.cmu.edu/user/clamen/misc/Canadiana/README.html

This general information page is a huge site with links to news and information, facts and figures, travel and tourism, government, politics and history, science and education, technology, heritage, culture and entertainment, and, finally, general links.

Defacto: Geographical Facts about Canada

http://www-nais.ccm.emr.ca/defacto/

This Web site reads like a trivia game. Where is the longest river in Canada? How many lakes are there in Saskatchewan? You get the idea. It's kind of fun.



Faits géographiques canadiens

Defacto

Geographical Facts about Canada

Tour of Canada without Leaving Your Desk

http://www.cs.cmu.edu/afs/cs.cmu.edu/user/clamen/misc/Canadiana/Travelogue.html

All the links you need to see, hear, and read about Canada. This is like the virtual tour of Washington, D.C., only bigger.

Canadisk

http://schoolnet.carleton.ca/cdisk/

If you know the questions to ask, you can ask them here. A part of Canada's Schoolnet, this Web site is designed for students of Canadian studies. You can also go to Schoolnet at **http://schoolnet.ca**.

Canada Historical Documents

http://WWW.Screen.COM/CPACf/program/resources/English/hist.html#FED

You can see the text versions of the Canadian Charter of Rights and Freedoms, The Constitution Act of 1867, the Meech Lake Accords, as well as information about the Canadian confederation.

Weather from Environment Canada

http://www.doe.ca/weather_e.html

Here's where you can get weather forecasts for every area of Canada, as well as maps, charts, and satellite imagery. In Canada, temperatures are shown in degrees Celsius, not Fahrenheit. This would make a good exercise for converting one temperature system to the other.

PACIFIC AND YUKON
PRAIRIE AND NORTHERN
ONTARIO
ATLANTIC

The Canadian Press

http://xenon.xe.com/canpress/Overview.html

Go here to see news from the Canadian perspective.

Geologic Survey of Canada

http://www.emr.ca/gsc/texthp.html

Click on Educational Materials and News to find the geologist. You can get information on subjects from earthquakes to gravity. You can also ask a geologist a question via e-mail.

Geodetic Survey of Canada

http://www.geod.emr.ca/

This site allows you to search for information about the geography of Canada, as well as links to information about the government of Canada.

Canadian Government Information on the Internet

http://library.uwaterloo.ca/discipline/Government/CanGuide/

Leads you to information about the peoples, provinces, and territories of Canada.

To start your students thinking about Canada in terms of the ABC's, they can surf the Canadian sites mentioned above to answer the questions below, filling out the URLs as proof of their discoveries. After they have practiced using this page, it's their turn to make up their own twenty-six letter ABeCeDarium of something.

An Internet ABeCeDarium of Canada

A is for Aleut–http://
How many Native Canadian peoples can you name?

B is for Banff–http://
Where is Lake Louise?

C is for Calgary Stampede—http://
Who does the stampeding?

D is for Dogwood (provincial flower of B.C.)—http://
Where is British Columbia?

E is for Elizabeth the Queen—http://
Is the Queen of England still the Queen of Canada?

F is for French language—http://
Where do they speak French in Canada? How many people speak French there?
How many people speak Ukranian and other non-English languages?

G is for Gaspar Bay, Nova Scotia—http://
How cold does it get in the northern parts of Canada?

H is for Hudson's Bay—http://
What was the Hudson's Bay Company, and for whom was it named?

I is for Inuit—http://
Now how many native Canadian peoples can you name?

J is for Jasper National Park—http://
Do Canadians or Americans do a better job of taking care of nature?

K is for Kingston, Ontario—http://
Who named Kingston and why?

L is for Loonie—http://
What's a loon?

M is for Maple Leaf Flag—http://
What else in Canada is called "the Leafs?"

N is for Niagara Falls—http://
Half of Niagara Falls is in Canada; where is the other half?

O is for Ottawa—http://
What is the structure of Canadian government? Can you name all of the provinces and their capital cities?

P is for Parliament and the Prime Minister—http://
How does Canadian government differ from American government?

Q is for Quebec City—http://
Quebec City is the only walled city in North America and the capital of New France. What else is called "Quebec?" How do the Quebequois pronounce "Quebec?"

R is for Regina, Saskatchewan—http://
Who was the Regina they had in mind when they named the town?

S is for Saint Lawrence Seaway–http://
From where and to where and between where does it run?

U is for Union Corner Provincial Park, P.E.I.–http://
What are the Maritimes?

V is for Victoria Island, B.C.–http://
Where does America stop and Canada start? What is the Pig War?

W is for Winnipeg, Manitoba–http://
Where do people get the strange names that they give to their cities?

X is for xenophilia–http://
What is the basic Canadian attitude toward foreigners?

Y is for Yukon Territory–http://
Gold fever! What can you find out about the American gold rush into Canada?

Z is for Zones–http://
How many time zones does Canada have, and how do Canadians write the zip codes that indicate their postal zones?

An ABC book of anything is a fun way to learn, no matter what topic you choose. It is a natural way for your students (no matter what grade level) to write and draw their knowledge and share that knowledge with someone else. Not a lesson that, at first glance, draws on higher-order thinking skills, the ABC approach does allow your students' minds to rove widely and gather the fragments of information needed to give factual substance to "in-depth" discussions. As you and your students work along, visiting Canada on the Internet, many opportunities will arise for a discussion of what all this information means.

Chapter 15:

Get a Job!

One of the benefits of an education is that it can help you get a job. One step toward getting a job is writing a résumé. The Internet is a great resource for finding out more than you want to know about conceiving and writing a résumé, finding a job, interviewing for it, and selling yourself personally and professionally. The purpose of this chapter is to let senior high-school students explore the various résumé home pages on the Web and craft their own résumés in preparation for a job interview. This résumé can be either for a job right now or part of an application for college. Either way, résumé writing is a skill that every one of our students will need upon graduation and for the rest of their working lives.

In Your Classroom

Job Hunting with a Safety Net

Goal

Understand résumé development to craft a persuasive, effective résumé.

Rationale

Writing a powerful résumé is one of the main steps toward finding the job a person wants. Every professional needs to keep his or her résumé up-to-date because in today's world of unstable employment, one never knows when one is going to need it. Practice in résumé-writing will help high-school students learn what it takes to produce a résumé that gets the job done right and gets them a job.

Objectives

Surf the Web to locate some home pages about résumé-writing. Locate individual home pages where people have posted their résumés. Develop a résumé based on background and experience while using tips from the résumé experts on the Internet. Use the résumé in an interview improvisation situation.

Procedures

Set the stage by showing your students a variety of résumés. Some of the résumés should be very good and some should be just the opposite. Discuss the aspects of each type of résumé. There are many résumés on the Web, so samples are easy to find.

The first step is to use a Web search engine, like WebCrawler or InfoSeek, to search for words like "resume," "resume writing," "curriculum vitae," or "vita," and see what you get. Or you can do a Veronica search in Gopher using the same search strategy. Each week, new sources are put on the Net and old sources are upgraded.

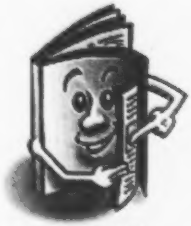
Tell your students that they are to develop résumés that will help them get jobs or help them with their college applications. Show them various sites on the Internet that help with résumé development. Let your kids visit the résumé sites and glean the information offered there. The final product is each student's design of an honest, workable, effective résumé that they can use to find a job or as part of a college entrance application or application for a scholarship, loan, or grant.

Evaluation

The final product is the proof of the lesson. Are the résumés honest, workable documents? Will they be effectual in the eyes of a prospective employer or admissions officer? Are they attractive as well as useful? Get some parents involved who have experience in the business world or in higher-education admissions: ask them to look at working drafts of the résumés and make comments and offer suggestions. When the résumés are ready, invite a couple of parents to your class to stage mock interviews with your students based on their résumés.

Listed below are a few Web sites where you and your students will find useful information about résumé writing. A few sources are specifically for high-school students, but some sources are specifically for college students and professionals. These are links your students can use when developing ideas for their own résumés.

Internet Help with Résumé Writing



ARTICLES

Anatomy of a Résumé

http://www.espan.com/docs/anatres.html

This Web site defines the basic components of a professional résumé: objective, summary of background information, skill areas, education, job history, and professional and/or community affiliations.

Joyce Lain Kennedy's Electronic Résumé Writing Tips

http://www.espan.com/docs/jlkresu.html

Along with nine basic rules of résumé writing, there is some good advice, but no examples of résumés.

Important Career Information

http://www.espan.com/docs/index.html#resume

In this master list of links about how to find and keep a job are links to résumé writing and interviewing.

Top Ten Technical Résumé-Writing Tips

http://www.taos.com/resumetips.html

Don't let the technicalities get in your way, for the ten writing tips are good ones, and they reinforce Kennedy's nine.

A Guide to Effective Résumé Writing

http://www.ceweekly.wa.com/helpful/grw.html

This site provides guidance on how to write, typeset, and deliver a résumé.

Contract Employment WEEKLY

Top Secrets of Résumé Writing

http://amsquare.com/america/advance2.html

Lots of secrets are revealed on how to make a résumé shine.

It's easier for beginners to visualize their own résumés after they have seen some samples. Not many high-school kids are seeking jobs over the Internet, so there are not many résumés by high-school students posted on individual home pages. Hundreds of résumés, however, have been posted on the Internet by college students, both undergraduates and graduates. These offer excellent sources of form and substance, both good and bad. For a look at some of the résumés, open the following URL: **http://cmc.www.drexel.edu/Drex_res/Directories/Interest_directory.html** and **http://cmc.www.drexel.edu/otherPages.html**.

One place to publish résumés on the Web is at this URL: **http://rohan.sdsu.edu/home/nsbe/mosaic/resume.html**

—log on to the page and follow the directions: dialogue boxes ask for input, and after each box is filled, the user can upload that information to the Web with a simple keystroke. This is also a good site to view an outline of a résumé.

Once students have composed their résumés based on examples and advice given from various Web sites, they need to prepare their texts in machine-readable form on a word-processing program. This will lead to good experience at designing a résumé that is attractive and useful.

A résumé that is maintained in a machine-readable file can be updated easily—a never-ending task. When your students get another job or finish another class or accomplish something else they are proud of, they can easily add their accomplishments to their résumés.

The résumé-writing pros all say that a résumé needs to be tailored to each opportunity in order to meet the conditions of a specific job offering or college application. A generic résumé—one size fits all—is bad strategy. Tailoring your résumé on a word processor is a piece of cake.

A résumé is a personal advertisement. It needs to be proofread by colleagues and friends before it is posted to see if it conveys the message it is supposed to convey. Résumé writing is, therefore, a high-interest opportunity for group collaboration as your students read and critique each other's résumés, making comments about how to make one another's self-ads more effective.

A final word about good taste in public: you will quickly note that many personal home pages on the Web and some résumés seem to be written without much thought as to what others may think about them. Before posting a home page or résumé on the Web, let it rest a day or two, then reread it and check to see that it says what you want it to say. Resist the urge to post items that show anger, embarrassment, or self-doubt. If your home page is not yet ready to post, then don't post it yet; post it only when it is ready. Call your students' attention to these blemishes in other people's self-ads, and engage your people in a discussion of how to put one's best foot forward in a global, public display of one's life, accomplishments, and talents. A home page or résumé does not have to be boring or dull, but it does need to be professional looking and positive sounding.

Chapter 16:

A Book an Hour

Teaching strategies take on a new life when adapted for use with the Internet. With this chapter, you and your students can practice using a Web browser and Gopher while reading a book in an hour. "A Book an Hour" is an excellent and speedy way to introduce or read a whole book, even a literary classic, with middle- and high-school students.

The pre-hi-tech approach with this strategy has been the following:

- Divide a book into chapters or sections so that small groups of students can read the parts and collaborate in preparing summaries.
- Near the end of the class period, a spokesperson for each group, beginning with the group that has read the first segment of the book, tells that group's summary, and so on until the whole story had been told to the class.
- As the summaries are read, develop a master chart either on the board or an overhead transparency to map out the story according to the summaries.
- At the end, the whole class works on a summary of summaries based on the summaries of the several parts.

Together your class will have read, reported, and summarized a whole literary classic in a single period, if the book is not too long.

When I've used this approach, I've found that I need a minimum of two class periods for the strategy to work best. I also need more time when I use the strategy with a class for the first time. Although this approach does not allow for a close reading of the text, it is a quick and easy way to introduce good literature to your students. They will get the idea that "good literature" can also be interesting and need not be tedious in the reading. This hors d'oeuvres approach will whet their appetites for more reading on their own.

In Your Classroom

An Online Book an Hour

An electronic version of "a book an hour" might go something like this: Instead of dividing up hard copy into chapters or sections, your students search out, download and divvy up, and read an electronic copy of their respective parts. If the book is not too long and is accessible online, students can read their sections directly from the Internet, but I don't recommend that: no point in tying up the connection that long. More logical and less expensive, I suggest downloading the book onto a hard drive or diskette, converting it to the class word-processing program, dividing the text into segments with block-and-copy moves, and then having your students read their segments on their computers. This way, fewer paper books will have to die, torn asunder; every student gets to read his or her own copy; and, at the end, a saved backup copy of the whole book becomes the readable property of every student, the first volume in their electronic library.

While your students are reading their sections of the book on their computer screens, they can be taking notes, whether by using the comment-box mechanism or merely by opening up space between lines. Recording their thoughts instantly and easily, they can build their summaries as they read. Printed paper books, even with the widest of margins, do not allow for this extent of editorializing as one reads.

Using the block-and-move function and the split-screen, your students can assemble their electronic notes into a draft of a summary, rewrite and reformat it with word-processing ease, and then swap disks. Each member of the group can read the draft-summaries of all the other members, typing out comments in shared-journal fashion. Then, when they meet in their groups to talk over the details and polish a final summary of that group's segment, they will have the benefit of already having read one another's individual comments and summaries.

Goal

Your students will become familiar with a classic work of literature by reading, commenting, summarizing, and crafting a summary of summaries of the selection, in one or two class periods.

Rationale

It is sometimes difficult to generate interest in "the dead poets" and other dead authors whose literary legacy is, nevertheless, a major part of the culture of our society and the light of our aesthetic life. An electronic upgrade of their works makes them lively and readable. When our students become familiar with these fine and enjoyable works of literary art in a meaningful yet "painless" way (and at the warp-speed of a video game), then fewer of them will register the universal complaint: "This is boring!" They will be encouraged to read other classics on their own.

Objectives

Download a work of classic literature using Gopher, FTP, or a Web browser. Work in small groups to read, comment, and summarize a segment of the book. Each group member reads the others' individual summaries; they discuss and prepare a common summary of their segment. The whole class works out a summary of the summaries. The whole class collaborates in reading the whole piece of good literature, and they work together to achieve understanding.

Optional Objective: Publish a class *Illustrated Comic Classic.*

Students draw (either freehand or using a computer draw program) pictures for each summary. Make a notebook of the pictures, each picture to be accompanied by its respective summary, with the summary of summaries to complete the project. Your students can then read the written and pictorial accounts of the work of their own crafting.

In Your Classroom

Electronic Comp. Lit.

After several books have been read using these electronic strategies, students can compare and discuss the various works of classic literature in relation to each other.

Procedures

To generate enthusiasm, you need to stage the first event well. If you hook up with a smooth Internet connection and high-interest electronic books the first time you use the strategy, then you will be off to a good start. If you are studying the Romantic Period, for example, you will definitely want your students to read the works of Edgar Allan Poe. Show your class that you have only a few copies (one copy?) of the book, but through the wonders of electronics, everyone is going to read chapters of this book and make their own contributions to the significance of the story. At this point, you and they surf to Poe (you will already have located the site because you want this lesson to go rapidly), and your students take it from there. There are several places on the Internet where Poe's work is available, two of them are **http://user.holli.com/~talon/bizarre/poe.html** and **http://www.cstone.net/~wmm/VIRGINIA/people/Poe/index.html**, both of which have the complete works of Edgar Allan Poe.

The Works of

Select the Poe title you want. Have your students block and copy the book and divide the chapters or pieces and copy onto diskettes for reading and annotating. If you have plenty of computers, your students can work alone or in pairs. If you have more students than you have computers, then each group of three or four students can cluster around a computer. Let one student act as electronic scribe, seated at the keyboard, while the others in the group read the screen and offer comments.

As a regular routine in English or language arts class, this strategy can be used about once every other week quite effectively. Students enjoy it and look forward to doing it again and again. You may assign your students to do the surfing to find next week's book.

Evaluation

The various possible versions of this activity are easy to evaluate: Did the chapter/segment summary-writing work? Did your students take hold of their parts of the book and inwardly digest them? Did the summary of summaries work—is it logical and accurate? Is there a notebook of summaries and the summary of summaries? How does the homegrown *Illustrated Comic Classic* look? Above all, did your students engage wholeheartedly in the discussion of the book? If you can answer yes to these questions, you and your students did a good job.

Many sources for classic literature are available on the Internet. Below you see a list of a few of them from both GopherSpace and the Web. Use directories or search engines to generate your own list: search under "Literature," the names of your favorite authors, or even topics. The addresses do work, but oftentimes, if you have not subscribed to the service, you cannot download the documents. For this reason, you will want to have crawled around the Web in search of free, downloadable literature, or be ready to pay.

Especially the first time you try this strategy, you want to make sure that your goal is attainable. By assigning the Internet search-work to your students for next time, they will learn how to find electronic literature for themselves. You can go to the Online Library at **gopher://wiretap.spies.com:70/11/Library/Classic** to view links to many titles. If the chapter or section is too long, your browser will ask you where you want the chapter saved. This is when I put things on a diskette. Downloading information takes a lot of room on a hard drive.

Whole Books on the Internet

- **The Electronic Text Center at the University of Virginia**

  http://etext.lib.virginia.edu/english.html

  This list includes hyperlinks to several hundred books written in English, and at the main site (**http://etext.lib.virginia.edu/uvaonline.html**) you can read books in French, German, Japanese, or Latin.

- **Books Online By Title**

  http://www-cgi.cs.cmu.edu/cgi-bin/book/maketitlepage

  Maintained by the library at Carnegie Mellon University, this is a general collection of literary works organized by title.

- **ALEX: A Catalog of Electronic Texts**

  gopher://vega.lib.ncsu.edu:70/11/library/stacks/Alex

  This Gopher list has many complete works, searchable by author, subject, or title.

- **The Online Book Initiative**

  gopher://gopher.std.com/

  In your browser, type this gopher address, then click on OBI, The Online Book Initiative, to view a list of over 150 authors and categories. There are books by Geoffrey Chaucer and Emily Brontë, by Edgar Allan Poe and Sir Arthur Conan Doyle, from Anglo-Saxon literature to Samuel Clemens, etc., etc., etc. There are other things here, too: weather maps, speeches by President Clinton, and Star Trek stories. You will be surprised at all there is to read at this one location. With this one site, you will never lack for literature.

The Bard on the Internet

http://the-tech.mit.edu/Shakespeare/works.html

The works of William Shakespeare are read by most tenth-, eleventh-, and twelfth-grade classes. The full text of Shakespeare's plays, poems, and sonnets can be downloaded from this site. The collection is arranged by category: comedy, history, poetry, tragedy, etc.

Women and Literature

http://sunsite.unc.edu/cheryb/women/wlit.html

If your class is interested in women writers, you can find short biographical sketches and some of the works of Louisa May Alcott, Jane Austen, Emily Brontë, and Sylvia Plath, among others.

Victorian Women Writers

http://www.indiana.edu/~letrs/vwwp/

A collection of thirty-seven works by twelve British writers in the Victorian Era.

Victorian
Women
Writers
Project

A Celebration of Women Writers

http://www.cs.cmu.edu/Web/People/mmbt/women/writers.html

A list of women authors with either biographies or their writings.

Download to your heart's content! Most of it is all still free for the taking—it's like being given an unlimited gift certificate to your favorite bookstore. You will need to establish a storage policy for your class because those hard drives will fill up in no time. If your system includes a spacious server, and every user has a "student locker" in which to save downloaded files, then you are lucky. If not, it's every kid with a floppy for himself or herself.

"A Book an Hour," with your own adaptations thereof, is a favorite strategy among whole language teachers, English teachers of any kind, any teacher who likes to teach by using literature (whether whole or in parts), and plugged-in, turned-on book lovers. As a library that never closes, does not require you to return the books, and levies no fines, the Internet is the greatest!

Chapter 17:

Just for the Little Kids

A colleague of mine has a seven-year-old and a twenty-three-month-old. The seven-year-old is already a computer whiz: he plays games, does his own Net searches for more games, is knowledgeable about both hardware and software, and has even started doing homework on the family computer. His little brother had mostly been watching.

One hot day, when mother and sons came home from a grocery-shopping expedition, the twenty-three-month-old imperiously commanded: "Puter, Mommy! Puter!" "In a minute, honey!" my friend replied, wiping the melting ice cream off her elbow.

Impatient, the younger sibling scrambled up the stairs to the computer room, and in a few seconds, my friend heard the "Ding!" that told her that someone had turned on the computer. "He can't hurt it or himself," she thought, and finished putting the groceries away, and then forgot all about it. Thirty minutes later, she remembered—stillness in a house full of kids is a loud warning. Up the stairs she went.

The less-than-two-year-old had turned on the switch at the surge blocker, negotiated the main menu, found the game he wanted, and was now blissfully wrapped up in 'puter play.

What 3- to 8-year-olds Can Do with the Internet

How young can they learn? It's a question of motor control, not of mind—the mind is ready to learn at birth (and, some would say, before birth). For you, teacher, the point is this: your kids are probably already inherently better at 'puters than you are, because they are younger, naturally meddlesome, full of monkey curiosity, and many of them grew up with these machines as familiar as TVs, whereas you did not. More important, kids' minds are like a whole roll of expensive paper towels: they can soak up almost as much as you can pour on them, and at an early age. Have no hesitation about presenting sophisticated Internet instruction to even your youngest students. What they can't execute on their own, they can watch and learn from. They can understand just about anything you tell them, if you use words that they know or can guess.

The Internet is full of links and ideas for 3- to 8-year-olds, not to mention 23-month-olds: stories, games, pictures, and just the sheer fascination of watching the world blip and bleep on a screen before their eyes. Just as Sesame Street gave a whole generation a head start with reading readiness, the kids raised by computer games are going to be ahead with a variety of skills: small motor control in their fingers, hierarchical logic (finding their way along paths and down menus), spelling (one has to be precise when keying in Web addresses), and keyboard writing readiness (it's easier to type than it is to wield a pen or pencil).

Little people can surf the Internet, drive the engines, download the files, and play the games just like big people, though they may need a bit more help. You probably will not have all your little people working with the Internet on a daily basis, but my guess is that you will find them eager to log on. As the story of my friend and her not-quite two-year-old indicates, kids and 'puters are natural allies. If you have a computer in your classroom, there's no reason for it not to be in use by someone all the time. Getting some of them to leave it alone will be a bigger problem than getting most of them interested in it! So, even in kindergarten and the primary grades, make the Internet an integral part of your curriculum; it can teach so much and with so little effort or stress.

One problem you will confront is the age-old problem of the have's and the have-not's. Some young kids have computers at home, and they will come to your class already computer literate and ready to turn on and log in. Others not only will not have computers at home but they will never have even touched a computer keyboard. In our time, the computer have-not's are seriously at risk in the scramble for knowledge, and it is your job as a teacher in a democracy to help make computer equality a new amendment to the Constitution.

In Your Classroom

Computers Belong in the Primary Grades

Right now, I'm seeing lots of kindergartners coming to school who already know how to operate a computer. They can turn it on and off, identify letters on the keyboard, and use rudimentary hunt-and-peck typing skills to access and work on the programs that they know. Your students who have this skill can also access the Internet. Your other students will need your help to catch up, but given your help, they will catch up fast.

The computer in and of itself is an excellent resource for teaching left-to-right reading orientation (a desperately needed corrective against the evil effects of watching too much television), symbol-to-letter recognition, sound-to-symbol recognition, and word-to-symbol recognition. On the other hand, not all grownups like computers, and neither—you may be sure—do all kids. Children whose "frame of mind" is dominantly bodily-kinesthetic (as Howard Gardner might put it) may have trouble sitting still for computer time. Let's not make the mistake that has been made so often in the past: this new technology, though it may be the best thing since sliced bread, is not as appealing to some as it is to others, and it will not work equally well for all. (Not everyone likes sliced bread, either.) Let's not persecute the kids who don't like computers.

When you involve your students in an e-mail activity, they will begin to communicate with one another on a plane quite different from the ordinary. E-mail gives adults instant intimacy and an ability to work together without knowing one another well. I do not know what goes on in the minds of little kids as they face a screen with a message on it from their peers, but an equally powerful mental alchemy is at work, and it is good. Minimally, the e-mail experience seems to help little people get out of their ego-centered stage in kindergarten and first grade, so that they can start thinking about, and with, others.

Internet work is trickier with little ones, but possible. Peer collaboration is one excellent way to go: work with a teacher in a higher grade, and set up a couple of times in the week for your little guys to partner with the older kids. To make maximal use of the available computers, some of your kids could go to the other room, and some of the other kids could come to your room. With this computer-buddy system—one little kid and one big kid (or two and two around a single computer, taking turns)—your students can surf the Net, play computer games, read files, compose e-mail, download programs, games, and files, carry on a keypal correspondence with someone somewhere overseas (or across town), and compose their own literary masterpieces.

See Chapter 8, "E-pals and Keypals," for addresses of listservs that specialize in electronic penpals, even for the little guys. You can view *Kid's Com* at **http://www.kidscom.com//** where your kids can sign up for penpals. If you are curious, click on the parent's and teacher's button, **http://www.kidscom.com/parentsplace.html** to find out what this Web site is doing.

In addition to those sites, take a look at the e-mail books these second graders are publishing at *Hoffer Elementary School* and *Murphy Ranch School*. Both are accessible at this URL: **http://cmp1.ucr.edu/exhibitions/hoffer/home/hoffer.e-mail.html**. In situations where the younger student has a text in his or her head but insufficient skills to write it down, the older student can do the writing or typing. Taking dictation from the younger buddy is good writing practice for the older buddy, and, then, reading the print-out will prove to be an altogether inspiring "language-experience" literacy event for the not-yet-quite-literate author.

This approach is good for both sets of kids for more reasons than just teaching them computer skills. The bigger kids learn about patience, along with listening, asking, clarifying, helping, and giving feedback, not to mention typing, spelling, grammar, and reading skills. (Reassure your young peer tutors that they can ask you for help, if they get stuck.) The littler kids learn how to compose their thoughts and dictate them in a logical manner, how to answer questions intelligently, how to correct an older person thoughtfully, and how rationally to get what they want. Both kinds of kids learn how to get along with one another.

After your students have worked with e-mail and are comfortable with their cyber-buddies, they can venture out onto the Internet together. At first, I thought FTP/Fetch was too difficult for 6-year-olds. That notion lasted until I saw home pages that had been made by young children! These youngsters have set up home pages comprising their own stuff plus documents from all over the Internet.

PeanutNet

There are many home pages on the Web authored by kids or their parents. It's difficult to tell who is doing the coding. However, Internet resources are read, point, and click interfaces, so they are not technologically difficult for youngsters to access. Good Web browsers have graphics and sound capabilities that make them ideal for younger kids. Computers equipped with audio programs and sound cards and video capacities make the Web just that much more appealing to kids. Many of the home pages created by the kids have sound and quick time movies, and all of them have links to other Web sites. Here are a couple of the many home pages created by or for little people.

David's Home Page

http://www.charm.net/~jcain/david.html

The author is five years old, loves snakes, and is a home schooler.

Emma Bowen's Home Page

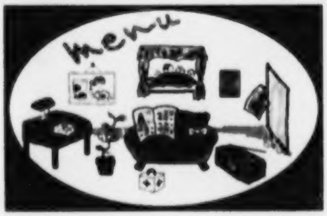
http://www.comlab.ox.ac.uk/oucl/users/jonathan.bowen/children/emma.html

Emma is eight years old, she lives in Oxford, England, and her daddy "plays with computers."

Kids Space

http://www.interport.net/kids-space/

You can read stories written by kids, view their paintings, ask a doctor for advice, or switch languages from English to Japanese. The youthful authors proclaim their "page is rated G," and it is.



Kids Did This

http://sln.fi.edu/tfi/hotlists/kids.html

This hot link collection of kid-generated stuff starts out with this warning: "It's a challenge to keep up with kids on the Internet, but we're trying. Our hotlist of student-produced stuff became too long for one page! Explore the topics that interest you. One word of caution: some student-designed pages take extra time to load. Caveat surfer."

Internet for Little Guys

The Web is icon oriented, which makes pointing and clicking easy for beginners. If you have some bookmarks to sites of high interest already loaded, that will make the process easier still. Many home pages are quite graphical, with pictures and brief explanations that are easy for young readers to understand.

Theodore Tugboat

http://www.cochran.com/tt.html

This comprehensive and fun home page of a Canadian television program is new every day, and you do not need to have seen the TV program for the activities to make sense. Kids love the interactive storybook with pictures, the coloring book, and the hot links to other places they like to go on the Internet.

Timmy the Tooth

http://www.mca.com/home/playroom/cgi-bin/story/timmy

To personalize this interactive story, your child can write his or her name in a box.

Mac Colouring Book

http://www.simcoe.net/karen/coloring.htm

If you want to see another coloring book, here are pages you can download and color.

Carlos' Coloring Book

http://www.ravenna.com/coloring/

One of the first coloring books on the Web, I've tried to use it, but it never works for me. I've seen kids use it, and it works every time. I guess you just have to be a kid!

Alex's Scribbles—Koala Trouble

http://www.peg.apc.org/~balson/story/

The idea for the story *Koala Trouble* is by Alex, a five year old, but the Web page is done by his dad. This is a clever story.

Children's Stories on the Web

Not all Web sites are written by children, some are written for children. There are many Web sites that feature children's literature, and I've only listed a few. Luckily, each of these Web sites has links to other sources of online children's literature.

Children's Story Books Online

http://www.magickeys.com/books/

Possibly the best of the story sites on the Web.

Storybook Land

http://members.gnn.com/shickman/main.htm

With the links to many children's books online you can go to the *Oz* books, general resources for children's literature, fairy tales, and so much more.

The IPL Story Hour

http://ipl.sils.umich.edu/youth/StoryHour/

Part of the Internet Public Library Web site, it has links to several stories you can read aloud to your kids. You might want to check out the main index for the youth IPL at **http://ipl.sils.umich.edu/youth/index.html** while you are in the vicinity.

Internet Favorites of Kids

Even before *Jurassic Park* and Barney, dinosaurs have long been a favorite of most primary-age students. On several lists of "kids' favorites" and "what's cool for kids," the Dinosaur Tour at the Field Museum at **http://www.bvis.uic.edu/museum/exhibits/dino/Triassic.html**. It is informative and interesting. Check it out and judge for yourself whether it's right for your kids. If you decide to teach your primary students using the Dinosaur Homepage, I'd be curious to know how it went. Send some e-mail to **ecotton@oavax.csuchico.edu**.

Besides big things like dinosaurs, little kids also like small wiggly things.

The Froggy Page

http://www.cs.yale.edu/homes/sjl/froggy.htmL

It's just right for certain kinds of pro-green primary kids. This home page has links to scads of frog-type documents, graphics, fun things to do, and even coloring pages. If you want to delight your six-, seven-, and eight-year-old herpetologists, click and point them to The Froggy Page.

Explore the Internet with Dr. I

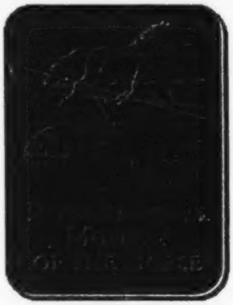
http://ipl.sils.umich.edu/youth/DrInternet/

A great site for science-minded kids who want to know more about dinosaurs, volcanoes, weather, earthquakes, space, and other cool sites. Dr. I is part of the Internet Public Library, which I mentioned above.

The International Museum of the Horse

http://www.horseworld.com/imhmain.html

I would be remiss if I did not mention this Web site. It has links to information about horses, and young horse lovers think it's great!



BEST COPY AVAILABLE

A Site for Kids and Parents Together

Parents and Children Together are read-along stories for parents (or teachers) and kids, ages 4–10, and can be found at the Web site of the ERIC Clearinghouse on Reading, English, and Communication (ERIC/REC): **http://www.indiana.edu/~eric_rec/fl/ras.html**.

Several stories are available already, and the ERIC folk have three years' worth of monthly read-along stories that they are aiming to put online. Soon, the stories will be accompanied by online audio narration.

Quick and Easy Ways to Get Your Kids Published on the Web

Because the archival capacity of virtual space on the Internet is practically infinite, all the old constraints and cautions of the hard-copy publishing world are outmoded. Now, everyone who wants to can get published electronically. If you can't find a place that looks just right to place your electronic publications, you can set up your own electronic publishing company by merely saying so on your own home page. Your class can set up its own home page (see Chapter 5, "Developing and Designing Web Pages") and publish whatever you and your students like. If you and your class go into the publishing business, you will want to do so with the backing of your principal. Schools are accountable for the electronic publications of their students, just as they are for other kinds of school publications. So I advise you to take advantage of the wisdom of the ages collected in school journalism guides. Here are two existing sites where your kids are welcome to publish their own stories—and read stories published by other kids.

KidsPub

http://www.en-garde.com/kidpub/

Here's a worldwide interactive story to which your kids are invited to add their own paragraphs. You and your students can see what other kids are doing in school. Encouraging and empowering, KidsPub is proof that little people can and do write good stories and get them published.

Put My Story on the WWW

http://ipl.sils.umich.edu/youth/PutMyStory/

Yet another link of the Internet Public Library project, here you can read stories written by kids from four to fourteen years old.

Home Schoolers on the Web

The Internet is also useful for home schoolers. There are many Web sites for home schoolers; take a look at just a few of them. Each has links to other home school Web sites, so you should not have any trouble finding things for your kids to do on the Internet. By the way, there are some good links for children on these pages, too.

The Home School Page

http://www.alaska.net/~mteel/homesch/homeschl.html

Part of a larger page by the Teel Family of Alaska, to see their page, click on **http://www.alaska.net/~mteel/index.html**.

Cain Hotlist

http://www.charm.net/~jcain/hotlist.html#Home Schooling

A list of links to about twenty home school pages on the Internet.

Internet Educational Resources

http://www.cts.com/~netsales/herc/hercoir.htm

A Web site developed by the Home Education Resources Center, it has links for kids that are both fun and educational.

Time to Get Going

Other sites besides these are available for young kids, but we could use many more such sites. This is a ripe opportunity for you and your class to take on the project of developing your own home page, going into the electronic publishing business, and linking up with anything that interests your young students. Cyber-buddies, older with younger, can collaborate to design, code, test, and upload a school home page with individual home pages for each of the grades or for the several rooms. See Chapter 5 to get started on your own home page.

So much is possible by way of using the Internet to teach and learn:

- Read electronic books and discuss them on e-mail, linking your class with one down the hall, across town, or on the other side of the globe.
- Go to *The Froggy Page* for ideas, and cross-reference to develop a lesson by linking to frog fables and frog stories on other pages. All these references can be integrated by linking to yet another page about frog habitat, which can be given a scientific bent by linking to the Virtual Frog Dissection Kit (if you have the stomach for that sort of thing). With this kind of electronic leapfrogging, you could hot link an excellent Frog Unit together!
- Go to the *Internet Public Library* and see a kitchen science experiment by Dr. I(nternet); then see if it will work in your classroom.

As with every other chapter in this book, I would thoroughly appreciate your feedback and suggestions. Please help me build my online course on how to teach by using the Internet! Have you found any other good Web sites for computer whizzes in the twenty-three-month-old to K through primary range? I'd love to hear from you—e-mail: **ecotton@oavax.csuchico.edu**. Thank you!

Selected Internet Books

Ackermann, Ernest C. (1995). *Learning to Use the Internet: An Introduction With Examples and Exercises*. Wilsonville, Oregon: Franklin Beedle & Associates. ($17.00)

Ahmad, Nyla, Martha Newbigging, and Keltie Thomas (1996). *Cybersurfer: The Owl Internet Guide for Kids*. Book and Disk. Toronto: Owl Communications. ($19.95)

Benson, Allen C., and Linda Fodemski (1996). *Connecting Kids and the Internet: A Handbook for Librarians, Teachers and Parents* (Neal Schuman Net-Guide Series). New York: Neal Schuman Publications. ($35.00)

Biggar, Bill, and Joe Myers (1996). *Danger Zones: What Parents Should Know About the Internet*. Kansas City: Andrews & McMeel. ($10.95)

Breeding, Marshall, ed. (1995). *Mecklermedia's Official Internet World: World Wide Web Yellow Pages 1996*. Book and CD-ROM Edition. Foster City, California: IDG Books Worldwide. ($39.99)

Burke, John (1996). *Learning the Internet: A Workbook for Beginners* (Neal Schuman Net-Guide Series). New York: Neal Schuman Publications. ($29.95)

Castro, Elizabeth (1996). *HTML: For the World Wide Web* (Visual Quickstart Guide). Berkeley, California: Peachpit Press. ($17.95)

Clark, Carol Lea (1996). *A Student's Guide to the Internet*. Upper Saddle River, New Jersey: Prentice Hall. ($17.40)

Classroom Companion Netbook Series (1995). Lancaster, Pennsylvania: Wentworth Worldwide Media.

Volume 1: *Internet Basics for Educators: The Step-by-Step Guide to Using the Internet*. ($12.95)

Volume 2: *Educator's Guide to Searching the Internet: How to Locate Educational Treasures on the Internet*. ($12.95)

Volume 3: *Educator's Guide to Using Email: Global Communications for Classroom Success*. ($12.95)

Volume 4: *Educator's Guide to Internet Classroom Projects: Creating and Participating in Online Projects*. ($12.95)

Educator's *Internet Funding Guide: Classroom Connect's Reference Guide for Technology Funding*. Lancaster, Pennsylvania: Wentworth Worldwide Media. ($44.95)

Crispin, Patrick Douglas, and Mark D. Ciampa (1996). *Atlas for the Information Superhighway*. Cincinnati: South-Western Publishing Company. ($34.25)

Crumlish, Christian (1966). *The ABCs of the Internet*. San Francisco: Sybex. ($19.99)

December, John, and Neil Randall (1996). *The World Wide Web Unleashed 1996*. Indianapolis: Sams Publishing Company. ($49.99)

Ellsworth, Jill H. (1994). *Education on the Internet: A Hands-on Book of Ideas, Resources, Projects, and Advice*. Indianapolis: Sams Publishing Company. ($25.00)

Frazier, Deneen, Barbara Kurshan, and Sara Armstrong (1995). *Internet for Kids*. Book and Disk. San Francisco: Sybex. ($22.99)

Garfield, Gary M., and Suzanne McDonough (1995). *Modems, Megabytes and Me: Telecommunicating Across the Curriculum*. Winnipeg, Manitoba, Canada: Pegius Publishers. ($16.00)

Giagnocavo, Gregory, ed. (1995). *Educator's World Wide Web Tourguide: Classroom Connect's Guide to the Best 150 Web Sites for K–12 Education*. Lancaster, Pennsylvania: Wentworth Worldwide Media. ($39.95)

Glister, Paul (1996). *Finding It on the Internet: The Internet Navigator's Guide to Search Tools and Techniques*. New York: John Wiley & Sons. ($24.95)

Glossbrenner, Alfred, Emily Glossbrenner, and John Grimes (illustrator) (1996). *The Little Web Book*. Berkeley, California: Peachpit Press. ($14.95)

Hahn, Harley (1996). *The Internet Complete Reference*. Second Edition. New York: Osborne McGraw-Hill. ($32.95)

Harris, Judi (1994). *Way of the Ferret: Finding Educational Resources on the Internet*. Revised Edition. Eugene, Oregon: International Society for Technology in Education. ($24.95)

Junor, Bill, and Chris Demontravel (1995). *Internet: The User's Guide for Everyone*. Boston: Branden Publishing Company. ($16.95)

Laquey, Tracey (1994). *The Internet Companion: A Beginner's Guide to Global Networking*. Reading, Massachusetts: Addison-Wesley Publishing Company. ($12.95)

Nelson, Stephen L. (1995). *Field Guide to the Internet*. Redmond, Washington: Microsoft Press. ($8.95)

Nelson, Stephen L. (1996). *The World Wide Web for Busy People*. New York: Osborne McGraw-Hill. ($22.95)

Peal, David (1995). *Access the Internet!* San Francisco: Sybex. ($22.99)

Pedersen, Ted, and Francis Moss (1995). *Internet for Kids!: A Beginner's Guide to Surfing the Net*. New York: Price Stern Sloan Publishers. ($8.95)

Place, Ron, Klaus Dimmler, Thomas Powell, and Ron Chapman (1996). *Educator's Internet Yellow Pages*. Upper Saddle River, New Jersey: Prentice Hall Computer Books. ($26.95)

Polly, Jean Armour (1996). *The Internet Kids Yellow Pages*. International Edition. New York: Osborne McGraw-Hill. ($19.95)

Pomeroy, Brian (1996). *Beginnernet : A Beginner's Guide to the Internet and the World Wide Web*. Second Edition. Thorofare, New Jersey: Slack. ($18.95)

Rankin, Bob (1996). *Dr. Bob's Painless Guide to the Internet & Amazing Things You Can Do with E-Mail*. Daly City, California: No Starch Press. ($12.95)

Schepp, Debra, and Brad Schepp (1995). *Kidnet: The Kid's Guide to Surfing through Cyberspace*. New York: HarperCollins. ($14.00)

Smith, Richard J., Mark Gibbs, and Paul McFedries (1995). *Navigating the Internet*. Third Edition. Indianapolis: Samsnet. ($22.50)

Steen, Douglas R., Mark R. Roddy, Derek Sheffield, and Michael Bryan Stout (1995). *Teaching with the Internet: Putting Teachers before Technology*. Bellevue, Washington: Resolution Business Press. ($16.95)

Strudwick, Karen, John Spilker, and Jay Arney (1996). *Internet for Parents*. Bellevue, Washington: Resolution Business Press. ($24.95)

Vitanza, Victor J. (1996). *Cyberreader*. Boston: Allyn & Bacon. ($27.95)

Wiggins, Richard (1994). *The Internet for Everyone: A Guide for Users and Providers*. New York: McGraw-Hill.

Williams, Bard (1995). *The Internet for Teachers*. Book and Disk. Foster City, California: IDG Books Worldwide. ($19.99)

Abridged Glossary of Internet Terms

Acceptable Use Policy (AUP):

A policy addressed to Internet users aimed at limiting the type of material that can be accessed from the Internet. Enforcement varies with the network. See Chapter 3.

Archie (short for Archives)

The searching tool for finding files or archives at FTP sites. See Chapter 7.

Bookmarks

A function on Netscape that allows you to keep a list of interesting sites so they may be easily found again. On Internet Explorer this function is called "favorites."

Browser

An Internet navigation program that interprets and displays hypertext documents. Netscape, Internet Explorer, and NCSA Mosaic are examples of browsers. See Chapter 2.

CU-SeeMe

Pronounced "See you, See me," it is a publicly available video-conferencing program developed at Cornell University. If you have audio/video capabilities and an Internet connection you can video-conference with someone else with the same capabilities. It also allows many people to video-conference at the same time. See Chapter 6.

Cyberspace

Term originated by author William Gibson in his novel *Neuromancer*. Cyberspace, Internet, and Information Superhighway are considered synonyms.

Download

To transfer files from a computer out there to your computer.

E-mail (Electronic Mail)

Messages, usually text, sent from one person to another via computer. See Chapter 8.

FAQ (Frequently Asked Questions)

Documents that list and answer the most commonly asked questions on a particular subject. FAQs are usually written by people who become tired of answering the same question over and over. If you want to find out more about a Web site, click on the FAQ button.

Flame

A negative response to an e-mail message or newsgroup posting.

FTP (File Transfer Protocol)

A common method of transferring files between two Internet sites. There are many Internet sites that have publicly accessible material that can be obtained using FTP. You log in using the account name anonymous, thus these sites are called anonymous FTP servers. Macintosh users use a program called Fetch to get the same results. See Chapter 7.

Gopher

A second generation navigation program that uses menus to display material. Although use of Gopher spread rapidly in only a couple of years, it is being replaced by Web browsers such as Netscape and Internet Explorer, which are easier to use. There are, however, many Gopher servers on the Internet, and we can expect they will remain for a while. See Chapter 7.

Home Page

This is the introductory or index page for a Web site that has hypertext links that when clicked on will take you to related Web pages. See chapters 2 and 5.

HTML (HyperText Markup Language)

The coding language used to create Web pages that can be read by browsers. HTML looks a lot like old-fashioned typesetting code. See Chapter 5.

Hyperlink (or Link)

An underlined word or phrase in a Web page or hypertext document that links you to another document, which may or may not also be a hypertext document.

Hypermedia

The combination of hypertext and multimedia in an online document. Sometimes called plug ins. See Chapter 6.

Internet (upper case I)

The huge collection of interconnected networks that all use the same protocols and that grew from the ARPANET of the late 60s and early 70s. The Internet now connects roughly 100,000 independent networks into a vast global network.

Internet (lower case I)

Any time you connect two or more networks together, you have an internet—as in international or interstate.

IRC (Internet Relay Chat)

Similar to a conference call only using the Internet instead of a telephone. Basically a huge multi-user live chat facility. There are a number of major IRC servers around the world that are linked to each other. See Chapter 6.

Java

A new programming language invented by Sun Microsystems, which is specifically designed for writing programs and can be safely downloaded to your computer through the Internet and immediately run without fear of viruses or other harm to your computer or files. Using small Java programs (called "Applets"), Web pages can include functions such as animations, calculators, and other fancy tricks. Expect to see a variety of features added to the Web using Java, since you can write a Java program to do almost anything a regular computer program can do, and then include that Java program in a Web page. See Chapter 6.

Listserv

The most common kind of mail list, or discussion group. See Chapter 8.

Login

Noun: Your user name needed to gain access to a computer system. Not a secret name like your password.
Verb: The act of entering into a computer system, e.g., Login to CARL.

Lurking

A person who is just listening to the discussion without saying anything. If you are new to a listserv, lurk awhile to get up to speed on the group.

Mirror Site

Due to the popularity of some Internet sites, mirror sites came into existence. They are replicas of other Internet sites. If you have trouble getting connected to one site, for example, because of the high amount of traffic, you can usually connect to a mirror site that contains the same information on a different computer.

Modem (MOdulator, DEModulator)

A device that you connect to your computer and to a phone line that allows the computer to talk to other computers through the phone system. Basically, modems do for computers what a telephone does for humans.

Netiquette

The etiquette on the Internet. The unwritten "rules" of etiquette used on the Internet.

Password

Your private code need to gain access to a locked system.

Search Engines and Directories

Two tools which allow you to search for information on the Web. There are a number of increasingly specialized search engines and directories available for a variety of purposes. See Chapter 4.

Shareware

Computer software programs you can readily download, for which the author expects to receive some compensation.

Telnet

The command and program used to login from one Internet site to another. See Chapter 7.

Upload

To transfer computer files from your computer to another computer. Doing this via e-mail is called "including an attachment."

URL (Uniform Resource Locator)

Sometimes pronounced "earl," this is the standard way to give the address of any resource on the Web. The most common way to use a URL is with a browser program, such as Netscape, Lynx, Internet Explorer, or Mosaic. A URL looks like this: http://www.xyz.edu. See Chapter 2.

Veronica (Very Easy Rodent Oriented Net-wide Index to Computerized Archives)

The way to search for information in GopherSpace. Veronica is a constantly updated database of the names of almost every menu item on thousands of Gopher servers. See Chapter 7.

Web Pages

Additional information that is typically accessed through a link on the home page, but may also be accessed from other Web Pages.

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*Definitions on this list were gathered from the following sources on the Internet:

- Glossary of Internet Terms:
  http://www.vtls.com/glossary.html
- Internet Guide from Pacific Lutheran College:
  http://www.plu.edu/www/libr/guides/glossary.html
- Internet Hyper-Glossary at Pippin Central:
  http://www.pippin.com/English/InternetCenter/Connect/glossary.htm
- Internet Literacy Consultants:
  http://www.matisse.net/files/glossary.html
- Internet Users Glossary:
  http://www.ietf.cnri.reston.va.us/html.charters/userglos-charter.html
- KnightWeb's Internet Glossary:
  http://www.knightweb.com/KnightWeb/glossary.html
- McGraw-Hill Internet Training Manual—Internet Glossary:
  http://www.marketing-coach.com/mh-guide/glossary.htm
- Onenet: Linking Oklahoma to the World:
  http://www.onenet.net/glossary.html
- WebInfo: Internet Glossary:
  http://www.rpl.richmond.bc.ca/webinfo/glossary.html
- W.W. Hagarty Library: Internet Workshop:
  http://www.library.drexel.edu/AppleSearch.acgi$RETRIEVE,2,74,8131,0,0,0

Selected American and Canadian Commercial Online Services[1]

Service	America OnLine	CompuServe	Genie	Prodigy	Microsoft Network	WOW
Phone #	800-827-6364	800-848-8199	800-638-9636	800-776-0845	800-386-5550	800-943-8969
URL (http://)	www.aol.com	www.compuserve.com	www.genie.com	www.prodigy.com	www.msn.com	www.wow.com
USA access	yes	yes	yes	yes	yes	yes
Canada access	yes	yes	yes	yes	yes	yes
Mexico access	yes	yes	yes	no	via long distance call	no
# countries	every major country	every major country	20	U.S. and Canada	U.S., Canada, Australia, Japan	every major country
Blocking available	yes—Parental control	yes—CyberPatrol	no	yes—CyperPatrol	no	yes, special software
Homework Hotline/helpline	yes, assistance for parents & kids	Indirectly at Student Forum	Computer Assisted Learning Center (CALC)	Homework Helpers—downloadable software	no	yes
Browser	AOL Browser	Netscape or Explorer	Lynx	Prodigy Software	Explorer	Netscape or Explorer
FTP/Gopher access	yes	yes	yes	yes	yes	yes
Telnet	no	yes	yes	no	yes	yes
Educational Resources	ERIC magazines, Reference Desk, Teachers' Information Center, Today's News	3,000 services many of which are useful to teachers, parents, and kids	College Aid sources, Education Center, The Learning Center, Encyclopedia, Space & Science	1,300 services many of which are useful to teachers, parents, and kids	Encarta (multimedia encyclopedia)	yes, similar to CompuServe
Chat Line	Kid's OnLine Chat, Gateways, People Connection	Student Forum, 23 channels for chat	Chat for Kids	Chat Rooms	Chat Rooms	Chat Rooms for Kids
E-Mail	yes	yes	yes	yes	yes	yes
Basic Fees	$9.95/5 hrs.	$9.95/5 hrs.	$23.95/9 hrs.	$9.95/5 hrs.	$4.95/3 hrs.	$17.95/unlimited
Additional hours	$2.95/hr. after first 5 hrs.	$2.95/hr. after first 5 hrs.	$3.00/hr., primetime surcharge	$2.95/hr. after first 5 hrs.	$2.00/hr. after first 3 hrs.	n/a
Start-up kit	free w/15 hrs. online	free w/10 hrs. online	free	free w/20 hrs. online	free 1 month trial	free 1 month trial
No. of members	6+ million	5 million	not released	3 million	not released	not released

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[1] See also *The List of Online Service Providers* at http://thelist.iworld.com/ which has details on how to contact over 3,500 local online service providers around the world.

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Eileen Giuffre Cotton is Professor of Education at California State University at Chico where she currently teaches a course on using the Internet in the K-12 classroom. She has experience as both an elementary and secondary school teacher and is a frequent presenter at educational conferences.

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